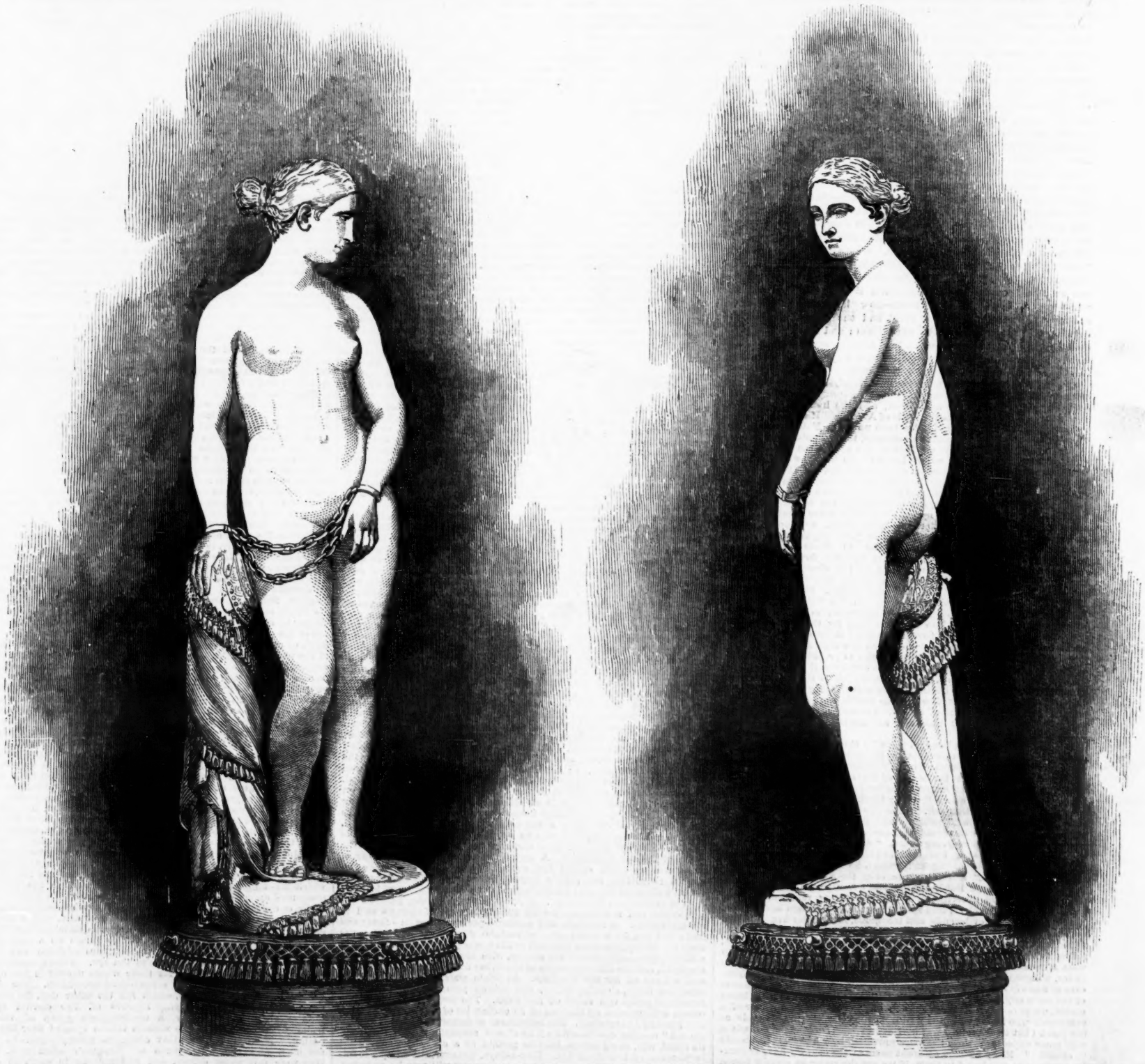
No. 509.—VOL. XIX.] SATURDAY, AUGUST 9, 1851. { TWO NUMBERS, 1s WITH HALF-SHEET SUPPLEMENT GRATIS.



THE GREEK SLAVE. BY HIRAM POWER.

The Greek Slave, by Power, has attracted so much attention, and received so much eulogy from the multitude, that we are induced to give a representation of it from two distinct points of view. There can be no doubt that it is a work of considerable merit of execution; but we must be permitted to question its claim to rank with the highest productions of the sculptor's art. We shall enter at large upon the grounds of our exception to it in a future article on Sculpture. In the meantime, we may generally state that our objections to it are that the figure in itself is ill-studied, and the attitude constrained and inelegant; whilst the incident supposed to be represented that of a modest female forcibly exposed in a slave market, and keenly sensitive of the humiliating indignity to which she is subject, deprives it of that charm which attaches to the nude figures of ancient art, wherein an obvious innocent unconsciousness of *déshabille* prevents all compunctions on the score propriety.

THE GREAT EXHIBITION.

THE FOUNTAINS OF THE CRYSTAL PALACE.

THE spot in which the pure cold water, distilled in Nature's mystic laboratory, far down in the bowels of the earth and amid the roots of the mountains, gushes, gurgling up to the air and the sunlight, sparkling and gleaming as brightly as would a stream of melted Hope diamonds and Koh-i-Noors—the spot in question, the birthplace of the stream or the rill, has always been invested by what we may call an instinctive veneration, or, if not in all cases veneration, an instinctive sentiment of admiration and liking, proceeding not perhaps from the reason, but from the imagination of man. Half the finest legends in the world are connected with fountains. Some of the most beautiful creations of poetic fancy are the sprites or presiding deities coupled with fountains. Fountains in all ages have been associated with pantheistic religion; and even in savage countries, where little is known of the gross and vague creed of the inhabitants, the well-heads of rivers have been found to be reckoned holy ground, and to have priests specially consecrated to their service. When Bruce approached the fountains of the Nile, he was warned to put his shoes from off his feet, and he saw an old man who was called "priest of the river." In the East, it is probable that the theistic nature of the faith of the people—for the Arab blood always teaches spirituality of worship, and is averse to the incarnation of ideas—in the East, we repeat, fountains have a peculiar class of associations connected with the physical circumstances and habits of life of the people. A fountain beside a palm is connected with the very idea of life and strength, and the refreshment of body and soul. A fountain marks a home. To "dig up wells" was the first duty of the nomadic people of the desert. Cities have been built by fountains; fountains have been hallowed by supernatural events occurring upon their brinks. The leader of Israel struck the rock, and a well gushed out beneath the blow. Patriarchs dwelt by fountains, and blessed them. Kings formed them, and made their glories a main adornment of their palaces. The basins scooped by Solomon, Mr. Disraeli tells us, are still visible in one of the gorges near Jerusalem, the site of those gardens in which the greatest King of the Jews "passed his delicious and poetic life;" while in later days of the Holy City, we all know that when the angels stirred the pool, the sick man dipped in the miraculous fluid emerged whole. The well of the desert had its own peculiar sanctity and its own peculiar veneration. The Arab and the Persian never invented nymphs or water-gods. They had neither Arethusas, nor Sabrinas, nor Undines; but their fountains were associated with their sweetest earthly hours—with repose, and shade, and refreshment; and, accordingly, they pictured to themselves, that fountains, crystalline and never stinted, sparkled eternally in their paradise. Imagine, indeed, the affection and gratitude with which the Oriental must have hailed the fountain. For scores and scores of dreary leagues, either one vast sullen sea of sifted sand, hot, and glaring, and scorching in the sun; or regions of wild broken land, mountain and crag and gully—all rock and stone, and hot, crumbling, treeless, plantless, herbless, weedless earth. Fancy, in the midst of this hot and glaring desolation, one peculiar ridge in the desert—one peculiar rift or gully in the mountain's side—where up springs freely, and freshly, and abundantly, the gush of living water—blessing, and hallowing, and nourishing the earth, rearing by thickets the long, rank, green, cool water shrubs—calling into being the soft sward of narrow-bladed grass, and arching this lowly vegetation over with the glorious, graceful, fan leaves of the date tree and the palm. We—not by any means living "in a dry parched land, wherein no waters be"—can only by an effort conceive what the spring is to the Oriental—how it gives him a home and an abiding-place—how he associates it with he ease and the well-being of his flocks and herds—how he revels in its water and its shade: our notions of thirst and our "panting after the water brooks" are terribly faint in comparison; and how he marks his desert domain—not as we, in such a land as this, would do, by mountains, plains or rocks, but by the wells which leap gushing up to day, and the rivulets which trickle down from them.

The Greek treated his fountains, as was natural, in different wise; and the reflected light of Greek fancy cast over the springs of the Appenines something of the beauty of association, and the hallowed mystery of sentiment, which attached to the wells of Arcadia. Had there been no amorous Alphæus, there would have been no stern Father Tiber: had there been no nymphs in the Argive streams, there would have been no Egeria to inspire and instruct old Numa. No page of the old mythology is more charming than that which treats of the beings with whom the wonderfully imaginative nation in question peopled their fountains and their rivulets. The water nymphs borrowed the purity and the lustre of their habitations. They were far less "of the earth earthy" than the fauns and dryads and hamadryads who formed the course and animal court of Pan. The fountain nymphs figure in fewer scandals in the notable pages of M. de Lemprière, than almost any order of the minor or the major divinities. The river gods might, indeed, occasionally indulge in escapades similar to those favoured by their brethren on the bank; but the *nympha fortis* was a pure and passionless creature—an emanation of the element which gave her being—so exalted and etherial a thing, indeed, that human intellect was overthrown by the airy vision, for all believed that he who saw a nymph died mad. In the tendency to create beautiful and spiritual beings out of fountains, may be traced at once the original Oriental love and reverence for the well-head, and the plastic imagination of the Greeks moulding it into shape, and form, and consistence. The fountain deities were, like most of the Greek creations, capricious, and given to revenge insult: to propitiate them, pieces of money were flung into the wells, which certainly the nymphs might have appropriated, but which, we fear, usually fell to the lot of their representative priests. The instinctive sense of delicacy and propriety of the Greeks is finely shadowed out in the prohibition to bathe in a fountain, or near the spring-head of a river. The water in its then condition was meant, they held, for holier use, and the touch of human nakedness profaned it.

Modified, of course, in a hundred ways, by climate, civilisation, habits of thought, and the lapse of events, we still share in our own land some portion of the original Oriental love and sentimental reverence for water issuing pure and cool from the bowels of the earth. The rite of baptism, no doubt, conferred a sacred character upon many of our own fountains. "In that well," quoth the holy Clerk of Copmanhurst, "did my patron, the blessed St. Dunstan, baptize five hundred brethren between sun rising and sun setting." Still the climate prevented the spring from attaining that amount of regard and esteem with which the Orientalist would view a fountain of living water. "Although," continues the holy Clerk, St. Dunstan, as he had informed the Black Knight, "was thus lavish of the well for baptismal purposes, he had never heard of the Saint drinking of it," and the example of the Saint was scrupulously followed by the friar. But if our national beverage can hardly be said to be water, we had nevertheless a fair and fitting reverence for our sweet fountains, and clear, cold springs; we have not been behind-hand in the construction of legends and traditions, attributing healthful and even miraculous powers to the waters of particular springs. We speak not of medicinal wells, but of ordinary sources, the water of which, taken at a certain time, or with certain ceremonies, was supposed to work miraculous physical and even moral effects. As an example of the latter, witness the clever Cornish legend of the well of St. Keene; whichever of a newly married couple drank the water first, after the performance of the ceremony, was to be master or mistress for life. And so much being stated, we have the capital application of the doctrine in the case of a gentleman who hastened to the well from the altar, leaving his bride at the porch; but on his return was horrified to hear, that he had made a wild goose expedition, since the more provident lady had "taken a bottle to church!" Many wells in different parts of the country have miraculous properties attributed to them, if we use the water at certain hours, or certain days. Before sun-rise on the 1st of May is a common period; and the day of "good St. John" is another mysterious epoch. In Scotland and Ireland these "fairy wells" are more common than in matter-of-fact England; and in both the former countries remote fountains have the reputation of being haunted; and, as they say in Scotland, "no canny" to be approached after dark. In the Highlands, in particular, there is hardly a well-head without its supernatural associations, or, if not that, without its tale of some feat of arms, of magnanimity, or of cruelty achieved near its waters. The memory of one of the most atrocious family massacres ever committed in the days of clan warfare is perpetuated by a little fountain springing forth on the way-side close to Loch Lochy, in Invernesshire, where the murderers paused to refresh to themselves and wash the bloody heads of a whole household they had slain, previously to displaying to their chief the ghastly tokens of gratified revenge. The spring is still called "The Well of the Heads." Again, in the Grampians, the sources of the rivers which descend to the sea through the plains of Morayshire and Aberdeenshire are one and all associated with supernatural powers and supernatural terrors. James Hogg worked up some of the vague legends about the spirits of the fountains of the Dee and the Don into strong and nervous verse. The springs in question burst forth in almost inaccessible nooks of the wildest and most savage hills; and the wandering shepherds have somehow managed to connect the wild storms which are so frequent upon the Grampian range with the tutelary spirits of the rivers in question. But by far the most beautiful and the most significant legend attached to any British well we know of is a story told of a spring in the Eastern Highland, not far from the little town of Cromarty. The legend is the more remarkable as embodying, in a striking degree, the character assigned to fountain deities by the Greeks; and certainly its poetic grace and characteristic moral are as charming as any ever invented in Arcadia or Thrace. During a hot harvest time a reaper was slakeing his thirst at the well. He was a coarse-minded and vindictive peasant; and as he raised himself from the water, he saw, hastily approaching to drink, a neighbour to whom he owed a grudge. Hastily catching up a handful of earth from the banks of the little rivulet which trickled from the well, he dashed it into the fountain, muddying the waters and rendering them unfit for use. But what was the astonishment of both parties as they stared for a moment at each other across the polluted well, to see the stream suddenly dry up, and the water sink with a loud rumbling noise back into the earth. The insulted naïad had withdrawn her bounties, and before sunset the water-herbs and weeds were drooping and dying in the unwonted drought. Meantime the culprit was regarded by his neighbours with a species of superstitious abhorrence. He was told that he was a doomed man, that he had insulted the fairy or the spirit of the well, and that there was a curse upon him and his. At length, by the advice of a Celtic seer, he undertook a sort of propitiatory service to soothe the offended powers. At the hour of the day at which he had insulted the water, he repaired to the dried-up well, and with a clean white linen cloth carefully cleaned out the basin. In a few moments the spring burst again forth with the same sound as that which had heralded its withdrawal; but it only played an hour, and then gradually sank away. Ever since, the stream has broken out on the first thorough cold autumnal day, and ceased flowing when the bright June sun gives token of coming summer. The nymph mocks the churlishness of humanity by withholding her aid when the sun is high and the air is sultry; while she pours it forth with provoking copiousness in the damp season, when a hundred mountain runnels are running around. Whatever a stern natural philosopher, deep in the matter of strata and the mysteries of hydrostatics, may think of the legend of the intermitting fountain, there is a fanciful natural birth about it, and an excellent moral point.

So much for fountains as nature has made them to our hands. With such feelings upon the subject of the birth-place of water, so strongly rooted and so unusually diffused, it was only to be expected that men would have attempted to aid natural beauty by means of art—that they would have adorned and embellished by the work of their hands the fountains which they most venerated; and that they would, at an early age in their progress, have introduced into their cities what we may call architectural shrines for springs, either natural or artificial, of water—the fluid itself, the soul of the structure—useful and necessary for the daily wants of the inhabitants; the buildings and adornments encircling the spring made to contribute to the glories and the embellishment of the place. Many an exquisite fountain, no doubt, played amid the streets and sparkled in the groves of Athens. In the Moorish cities of southern Europe, fountains formed the most graceful architectural feature of the place; and they were, as a pump is in a country village at this day, the great centres of gossip, flirtation, and small talk. The Moors, indeed, were and are a fountain-loving race: they have fountains within doors and fountains without, fountains in their rooms and fountains in their vestibules; everywhere amid their buildings cascading waters rise in glistering jets and fall in sparkling showers, spreading coolness through the hot Spanish or African air, and lulling the pleasant siesta with a lullaby of tinkling water drops. The fountain passion spread rapidly and extensively north. On the bleak side of the Alps it very soon became wedded to the ordinary forms of Gothic architecture, and the water used for the household purposes of the middle ages fell in shrines which might have niched the chapels of cathedrals. Many of these lovely structures still exist; in the south of Germany and in the Tyrolese towns they are particularly abundant. Augsburg and Nuremberg are studded with such gems; and scarcely less beautiful structures are to be found in such picturesque lazy old Bavarian towns as Aschaffenberg and Bamberg. In our own towns, such as they were in the *moyen âge*, fountains were almost equally favoured. These were not the days of water companies and forcing pumps, driving the fluid at high pressure into garrets. A wealthy citizen, or a wealthy guild, or beneficent and liberal person, or feudal superior, constructed at his own cost, and endowed the town with a conduit or a fountain, for behoof of all and sundry; the water, on great occasions, so far at least as the wealthy communities went, being changed for beer, or even wine. There are many items in the expenditure, in days gone by, of the City of London, vouching for the fact that the practice was reasonably frequent, so far as regarded the "Conduit in Cheape."

Our fountains, however, found no continued favour in our eyes; from the days of the Tudors downwards, England shewed scant taste in the art of adorning herself. The Elizabethan architecture was a dismal frittering of the smallest features of the Gothic; these features being dwarfed and perverted in the process. Then came after Palladio the *quasi classic* style, engendered by the *Rénaissance;* but while many fountains were constructed upon the new fashion over the Continent, hardly one was reared in England. To a certain extent this was so much the better. It was with this taste that there came into use all the enormities of tritons, and dolphins, and such sea monstrosities as we too often find in fountains to the present day. Neptune, Amphitrite, and their brood rose everywhere in marble and in bronze. *Louis Quatorze* domineered over the taste as well as the politics of Continental Europe. Perfect crops of sea-monsters, witched out of their native element of brine, rose upon the terraces and among the basins of Versailles; and, the taste once established, we have been going on making fountains out of Lemprière's dictionary ever since. Then also arose what may be called the flat dish or saucer style of fountain—the most recent of the unpretending modes, and of which the notable specimens in Trafalgar-square afford brilliant examples. This is the style of fountain which of late has been creeping into use in parks, conservatories, and so forth; where, indeed, the illustrious architect did not content himself with a stone basin, and a brass nozzle and cock, supplied by the nearest water company, in the middle. The rise of mechanical science was, no doubt, one of the reasons of the downfall of fountains in England. The water-wheels established in the three Surrey arches of Peter of Colechurch's London-bridge is an old story; and the wooden piping occasionally dug up in provincial towns showed that our ancestors were early desirous of obtaining a domestic supply of the pure element. Sending to the town fountain was no doubt found to be an unprofitable process. Maidens lingered, their stoups upon their heads, to retail the gossip of the neighbourhood. A great portion of the entire supply of water was no doubt spilled and wasted, and a vast loss of time experienced in getting the supply home. Under those circumstances, no doubt, wells were dug, and pumps began to exhibit their symmetrical and elegant proportions to the land. Terrible affairs, no doubt, pumps are—a by-word and a sobriquet for an unfortunate set of mortals said to resemble them. A fountain and a pump—poetry and prose—fancy and fact; and yet, for serious matter of business domestic uses, which is the more reasonable, the town fountain or the house pump? Associate water with nymphs and deities of the stream, with the thirst of an Arcadian shepherd, and the transmigration of the flying damsels in the mythology, and we are all for the fountain. Associate water with washing days, scrubbing floors, cleaning dishes, and boiling potatoes, and the handy household pump will carry off the palm. The fountain in the public square will summon up the idea of an endless lot of small talk, scandal, and Dorothy Draggletails. The instrument of domestic supply—the well-abused "wooden cow"—with all its absurd associations, its handle and its spout, will, at all events, hold its ground as a cheap and convenient implement of household use. Now-a-days, however, the pump has fulfilled its mission; and so far as towns go, its spars will soon be as rotten, and become as great curiosities, in their way, as the beams of ancient stocks. Water supply will, it is to be hoped, speedily bring the fluid to the kitchen and the bed-room of every town-dwelling Englishman—a supply nine-tenths of which shall not run to waste as does that of the fountain; and for the procuring of which no such labour shall be requisite as that exacted by the pump; a supply which shall be always "on," and only require the twist of a cock to evoke. Beautiful as fountains are, much as we love, and earnestly as we are about to advocate them, we would rather see a populous town well supplied with steam-driven water, careering through every street and every house in leaden pipes, than a city with the most magnificent architectural and sculpturesque collection of fountains ever reared. For use, water ought to be brought into every domicile, and be attainable with no labour and little expense. But for ornament the case is different. As matters of ornamental adjunct to other architectural beauties, we should earnestly advocate fountains. We would like to see them shoot sparklingly up in every square and roomy highway; we would like to have them made a conspicuous feature in every ornamental park and public pleasure-garden; we would even like to see them in the halls of great houses; and, in a light, elegant, and portable shape, introduced as after-dinner ornaments upon special occasions of festivity and glee. To all who cry out about the climate being too cold for fountains, we would reply, it is not warm enough certainly to realise all the luxuries of spouting flashing water; but it is certainly not so cold, that the very idea of water breeds discomfort. If you think so, banish the sea, lakes, rivers, and streams as adjuncts of the picturesque and the beautiful in Britain. If a man does not feel unpleasantly chilled gazing on a Welsh or Irish or Scotch waterfall, why should he on a fountain, flinging aloft as many drops of water as the cascade whelms tons, or at least hundredweight. It is not necessary to associate the idea of a *jet d'eau* and a shower-bath; and so, therefore, leaving out of the question all further argument about England being too cold for gracefully arranged streams, jets, and girandoles of flowing water to be looked at with pleasure, or with even comfort, we proceed to describe the few fountains which the Exhibition has favoured us with, adding an observation or two upon what we will call "domestic fountains," no specimen of which, as far as we observed, is contrined the Crystal Palace.

Place to our neighbours the French, who show just one specimen, and not such a good one as we have seen in many a little village of southern France; still M. André's structure has grace and beauty of proportion. It is of bronze, against the dark line of which water always comes well out. The general design is that which we may characterise as the dumb waiter shape, the very *acmé* of which, in its barest and most wretchedly naked form, is to be seen in the case of the unhappy squirts in Trafalgar-square. Graceful carving and moulding, however, relieve the design in question to a very great extent. The wreathed and matted water-flowers and plants, represented as twisting round the edge of the basins, are strictly in character; and the device of making the water drain from one of these receptacles, through the petals of expanded aquatic flowers, is graceful and pretty in the extreme. Only we would have surrounded the flowers with twisted and elaborated vegetation, so as to make it appear that the fluid was, as it were, draining through a bank of appropriate vegetation. Supporting the second basin is a pretty and characteristic device of herons standing in the midst of a group of reeds and water-plants. Here, indeed, is an indication of a style which we should wish to see carried out in the matter of fountains. Almost without exception, what may be called figure fountains are overrun by a parcel of semi-heathen monstrosities—of tritons and dolphins, the relics of the worst dregs of the *Renaissance* of the taste of Louis Quatorze, when the Greeks and Romans of Corneille and Racine appeared in lace coats and flowing periwigs. From this degraded taste there is hardly a fountain in the Exhibition entirely free. Tritons will make their way, as it appears, into modern fountain. We would oust the whole vile generation. And here, in the French fountain, we find the germ of what may well become one of the substitutes. Most natural fountains, which do not gurgle from a cleft in the rock, spring up amid the vegetation they nourish. That vegetation affords food and cover for various species of aquatic birds, many of them very graceful, and capable of being beautifully introduced among the herbs. Now, why not make, as the *pièce de resistance* of the fountain, a picturesque sheaf of reeds and broad-leaved plants, with or without birds or aquatic animals, such, for example, as the otter? A device of the kind, floral in its general nature, could be made thoroughly symmetrical and beautiful; and the gush of the fountain up amid the reeds, and bursting out from the interior of their twisted leaves and branches, would not only be abstractedly beautiful, but set forth that truth to nature in which is the perfection of all art. The supporting part of the top basin in the fountain under notice is an example to a small degree of the principle here laid down, and it is infinitely the best part of the design. The crowning figure is graceful enough; but there is an incongruity in a woman with a crown upon her head spouting water all over her, which spoils all the harmonious portions of the figure.

Proceeding westward, and passing one or two minor German vase fountains, the principal of which is a commonplace design, representing half-a-dozen naked children supporting a magnified saucer, we arrive at the central point of the Exhibition, the celebrated crystal fountain. This is a work of which altogether the executants may well be proud. Not without faults, there is still a massive splendour and a dignity of symmetry about it which give it a distinct character and presence. The novelty and splendour of the material first strikes. The eye wanders complacently over the stately proportions, the glittering pinnacles, the massive basins, propped and adorned by gleaming pillars, and loves to catch the delicate prismatic reflections, those "atoms of the rainbow fluttering round," which, as a spectator changes his position, seem to flit and flicker through the stately fabric of the cut and gleaming glass. Our faults with the fabric are, first, that there is not a sufficient quantity of water thrown, that the tail is not big enough for the body; but this, we presume, can easily be altered; and, secondly, that the design of the double basins stuck into each other as it were by the bottom, betokens a certain poverty of fancy, and bears no inconsiderable resemblance to a twin pair of cups turned upside down. These, however, are faults which only in small part detract from the merit of the work. The general plan is new and stately. Tritons and monsters, thank Heaven, have been avoided, and the material is very splendid. Whether it would stand the alternations of frost and heat to which it would be subject, if built out of doors, is a question for the maker to value. Our impression is that it would be found as durable as metal or stone. In the Transept stands another English fountain, the manufacture of a house in the Strand. Its single recommendation is, that it flings plenty of water. The design is simply that of a pair of bed candlesticks stuck one on the top of the other. From the surface of the water in the lower basin, a circle of ugly nozzles spout a series of squirts towards the extinguisher of the topmost candle; while upon the surface lie half-a-dozen plates of copper, intended to represent water plants, and looking wonderfully like floating frying-pans; while in or near one of these aquatic cooking utensils, is an abomination of a doll dressed like a sailor, and carrying the union jack; a standard, by the way, which would were the union in question that of want of taste and want of sense, strictly illustrate the fabric it was intended to adorn. Here, now, is a specimen of the miserable conventionality in which we crawl in our designs for fountains, continually reproducing either bed-room candles turned into squirts, or vulgar tritons. One single specimen we exempt from the reproach. The Coalbrook Dale fountain is very beautiful and fanciful. The design rises from a basin, beautifully moulded into water-flowers and plants, which, curving upwards, bear a shallow vase, the edges clustered over with graceful vegetation; in the centre of which stands a swan, bestridden by a naked boy, or Cupid, the figure of the latter full of fire and life, and the head full of character and arch liveliness. Still there is more of phantasy than of art in the notion. Swans are only peaceful in the water. Then, why should the boy choose to ride upon the swan, no purpose being made apparent? And why, too, did the artist insert the pierced nozzle of a garden watering-pot in the bird's beak, as a medium for the spout which it is flinging upwards? We object, indeed, to the principle of sculptured animals spouting water at all, whether from their mouths, or shells, or cornucopias held in their hands. The whole notion is incongruous and unnatural, being at the very best a conceit, and a far-fetched and unpleasantly suggestive one. In fact, a good deal might be said to prove that fountains ought never to spout, but to gurgle up a gush of living water, so arranged as to fall in combinations of drops and trickling rivulets, which may be harmonious to the eye. Nature, except in rare cases, never spouts. And as for those whose delight is *jets d'eau*, we recommend them to procure a second-hand fire-engine. The *Acis and Galatea* fountain in the Nave, which fell the other day, did what, considering its design, we highly approve of. The eternal bed-room candles were crowned by a commonplace group of male and female figures, and from the corners tritons spouted over the central design. Now, if for no other cause, we utterly object to tritons, dolphins, and the whole train of Neptune's attendants, because they were salt water deities, and had nothing in earth to do with fountains or wells of the pure drinkable element. A triton could possibly spout nothing but brine, and a dolphin could hardly be expected to do better. What, then, have the creatures of the sea to do with those of fresh water—of the rivers flowing among the sweet green meads, or their springheads bursting up amid reeds flags, and water-

NEWSPAPER ONE PENNY LONDON NEWS

THIS SHEET WAS PRINTED AT THE GREAT EXHIBITION

lilies? In the first place, a triton has no business to spout at all; the notion is anatomically false and unnatural: and in the next place, if he does spout, it ought to be salt water like a whale, and not fresh water like a carafe. There is only, we think, one other fountain of mark in the Nave, that labelled as designed for a market-place. We only trust that we may never live in the town in the market-place of which such a shapeless lump shall be erected. The notion of the designer must have been to give about a ton weight of material for any drop of water descending at any particular moment from the hump-backed mass he has imagined; such an utterly unformed, ungraceful, and unwieldy projection we never remember to have seen. Here it is Gothic, there a bastard Romanesque, and anon it belongs to no sort of style whatever, save, perhaps, that of which the makers of plum-cakes were the inventors. The classic tritons and dolphins (greviously ill-shaped specimens) consort with *moyen âge* griffins and dragons; and altogether, considering the want of grace, which ought to be the peculiar feature of a fountain—considering the shapeless heaviness of form, the want of harmony between the means and the end, the lack of all style in art, and all perception of the beautiful—we would be inclined to point out the fountain "designed for a market-place" as a combination of every feature and property which a fountain ought not to have.

One word more as to house fountains. As drawingroom ornaments or after-dinner table adornments, they would be equally pretty. In both cases they might be so constructed that the water should leap forth in the midst of natural or artificial flowers—the former, of course, to be changed when necessary. A low jet, just to glance above the herbage and produce a poppling sound; the water to be seen trickling among the stems and lower leaves, before it becomes absorbed in the receptacle from whence it is forced. Such, in general terms, would be our notion of such fountains. There are many beautiful crystal *epergnes* in the Exhibition which might be made to add flowing, sparkling water to the attractions. We would not advise glass shades, which we see over some small fountains exhibited in shop windows. The effect is toy-like and cramped. The water is not poison, that it should be guarded and imprisoned; while the imbecile trick of making a jet support a little round ball, is purely one of the most childish pieces of triviality to which living and running water was ever prostituted.

SALT-GLAZED STONE-WARE.

On the south side of the Western Nave (Class 27, No. 125), behind saddlery and furs, are a pyramid of brown ware, of that material immortalised in the song, which begins—

> Dear Tom, this brown jug, which now foams with good ale,
> Was once Toby Philpot, the pride of the Vale.

The apex of the pyramid is formed by a huge jar capable of containing some hundred gallons. Below are arranged condensing worms for distilleries; jars with stone air-tight stoppers; a pump for acids, of the same material, huge draining pipes, filters, leech jars, jugs, bottles, feet-warmers, and a variety of other articles, with little or no pretension to beauty of form or colour; some of which we are so accustomed to see and to purchase at a very low figure, that, without special information, we should never guess that they were the subject of a very important manufacture, which is daily being extended to new objects of utility.

The value of salt-glazed stone-ware consists in its cheapness, and its capability of enduring heat and resisting the action of acids.

Stone-ware has useful qualities peculiarly its own, and must not be confounded with porcelain, as it is an entirely distinct manufacture. In coarser forms, for jugs and jars, the manufacture has been carried on in England ever since 1770, but the improvements which have rendered it so valuble are of recent date. At present, the yearly production in the parish of Lambeth alone exceeds £100,000, of which sum more than one half is expended in labour.

Salt-glazed stone-ware differs from porcelain, especially in the quality of clay of which it is composed, and in the mode of glazing. The clays which are brought from Devonshire, Cornwall, and Dorsetshire, contain a large proportion of silica, the rest being silica with a small quantity of iron and lime in combination. Other clays are brought from other parts of the kingdom; but it constantly happens, that proprietors of clay-pits are disappointed by finding that their produce, when subjected to the intense heat we are about to describe, melt entirely away.

The clays in use may be divided into three classes: first, that used for small ware, or vessels not exceeding in capacity from two to three quarts; second, that used for vessels up to six or eight gallons; and, lastly, that used for the manufacture of chemical vessels, which are required to contain hundreds of gallons. These last are required for processes where any metal except platina would be corroded and destroyed by the combined action of fire and the acids which are to be stored or even kept boiling in them. Platina, from its cost, is of course out of the question, except for very small retorts. The loss from fracture or perforation in one of these great vessels in the course of chemical distillation would be enormous. It is therefore needful to take the greatest possible precautions. In experiments with new kinds of clay, chemical analysis is now resorted to, instead of the old rule of thumb; but, when the proper mixture of clays has been obtained, a great deal depends upon manipulation. In a work upon porcelain, published in 1834, the fabrication of a vessel holding between sixty and seventy gallons was spoken of as something extraordinary. The jar before alluded to contains 400 gallons, and the exhibitor, Mr. Stephen Green, of Lambeth, has supplied several of the capacity of 300 gallons to manufacturing chemists.

The following is the

PROCESS OF MANUFACTURE.

Preparation of the Clay.—The clays arrive at the works by sea and up the Thames, in pieces weighing each about 20 lb. These lumps are packed in drying-sheds, to allow the water in combination to pass off by evaporation, until the clay assumes a white appearance, which is technically called "white hard." They are then placed in a powerful crushing-mill (of similar construction to those used for bark for tanning), by which they are speedily reduced to an imperfect powder. For small ware, such as ginger-beer bottles, jars, feet-warmers, &c., the powdered clay does not require any mixture, but is at once ready for the puging-mill.

The "pug-mill" is a cylinder about 2 feet in diameter, and 6 feet in depth. A perpendicular shaft running through its centre, driven by overhead gearing, revolves in this cylinder, to which are attached a number of knives in the form of an imperfect screw. The powdered clay, with a sufficient quantity of water, is thrown into the top of this cylinder, or pug-mill; and, by the continued stirring and pressure of the knives attached to the shaft, is so thoroughly mixed, that it is delivered from the bottom in a state fit for use, of a very uniform consistence—which is a point of the very first importance.

The second kind of clay is formed by a mixture of various kinds, some of which are brought from Dorsetshire, and mixed with sand in the proportion of about one-fifth of the whole mixture. But it is the third kind of clay, for the manufacture of chemical utensils, which requires the greatest care in composition, both as to proportion and perfection of mixture. A hole the size of a pin would render valueless a vessel perfect in every other respect; and the smallest piece of dirt might cause such a hole by being burnt away in the burning process. It is necessary that these vessels should not only be fit to contain and resist the action of acids, but that they should allow of a certain contraction and expansion when heated, without fracture. For this purpose the strong fire-clays of Stourbridge and Newcastle are employed, with a certain proportion of powder of a vitreous kind of earthenware. These are carefully mixed, sifted in a fine sieve, and passed through a pug-mill expressly kept for the purpose, from which it emerges in the shape of fine paste, perfectly smooth, soft, and tough.

In Mr. Green's establishment, the clays prepared in the pug-mill are lifted by machinery to the respective establishments where they are required.

Moulding and Shaping—The mode of shaping all circular articles in stone-ware is the same as in china and earthenware manufactures, by the potter's wheel. Other forms are made in moulds of plaster of Paris or wood. The potter's wheel it is unnecessary to describe, as it must be seen at work to be understood. It is enough to observe that it was employed with admirable skill, in precisely its present form, two thousand years ago, by the Egyptians, and subsequently by many other extinct nations.

The small round ink-bottles and monstrous vases are made on the wheel in the same manner, the only difference being in the superiority of the clay mixture of the larger article, and the necessity that exists for making it at several times. It must, however, be admitted that there are very few workmen capable of making a vase of the size exhibited perfect enough to be employed for chemical purposes.

When the vessels are made, they are placed in the drying-rooms. If any accumulation of moisture should remain in the body of the clay when heat is applied, the sudden expansion would fracture the vessel.

Burning Kiln.—When sufficiently dried, the vessels are placed in a kiln, which is a circular room entirely composed of fire-bricks, about 12 feet in diameter. In the sides are a number of openings to admit the heat from fires. The roof arches in at about eleven feet from the floor, and contains a number of holes about six inches in diameter, besides a still larger orifice in the centre, in order to allow the smoke to escape, and for a purpose which will presently be explained.

In this kiln the smaller articles of stone are arranged on open shelves, and the larger ones upon another in tiers. Hence the importance of each vessel being thoroughly dry; for if one break in the course of baking, a general smash will often follow.

When the kiln has been filled, the doorway by which the goods have been carried in is carefully built up so as to exclude air, and fires are lighted in the several openings, which generally amount to six. For the first twelve hours the fires are very gradually increased; after which, for about thirty-six hours, they are intensified as much as possible, so that, at the end of forty-eight hours in all, a glowing white heat is attained.

In all other kinds of glazed earthenware the vessels are dipped into a composition of materials, which become, at less heat than required for stone-glazed ware, converted into a kind of glass. But with large vessels such a process is obviously impracticable. Accordingly the following plan is adopted, which was invented by the brothers Elders, two Dutchmen, after a series of experiments, about seventy years ago.

Glazing.—Some few minutes after the last supply of coals have been cast on the fires, a quantity of very coarse salt—fine salt does not answer so well—is thrown into the vessels through the small holes before described, in the roof of the kiln. The heat within the kiln instantaneously converts the salt into vapour, which penetrates and envelopes every part of every vessel in the kiln, and chemical action follows, by which the base of the salt, soda, unites with the silica of the clay, converting it into a perfect glass, over the surface of the whole vessel; the chlorine attracting the iron in the clay to the surface, unites with a portion of it and escapes into the air from the roof of the kiln. A distribution of about a hundredweight of salt in ten minutes is found to be sufficient for glazing a kiln full of vessels. This glaze, being composed of the body of the vessels glazed, is not affected by the action of air or acids. Vessels glazed by this process have been known to be in use for the manufacture of nitrous acid for twenty years, with very slight deterioration of the surface.

After glazing, the fires of the kiln are allowed to burn out in the course of thirty or forty hours: the doorway is unbricked, and the vessels, after proving, to show that they are water-tight, are ready for the home, the Indian, the American, and the Australian markets, where they are largely in demand.

Thus, at a very cheap rate, a rapid supply is procured of articles of great size, durability, and perfection of glaze—fourteen gallons being about the capacity of vessels procured by the dipping process.

This is a healthy employment in all its branches, and the workmen of skill earn good wages. A good hand at the potter's wheel can earn from £2 to £4. During the time the cholera raged in Lambeth, although a fœtid smell was constantly arising from the vats of the bone boilers near the potteries, not one potter fell a victim to that plague. This has been attributed to the purifying effects of the large quantities of chlorine envolved in the process of glazing.

Among the articles of stone-ware exhibited, we would particularly call attention to the large water and drain-pipes, which are made by machinery, and from their smooth surface afford a cheap and efficient conduit for liquids. A cheap drain-pipe is a great aid to the sanitary movement.

The stone pump is ingenious, and so are the patent jars with air-tight stone-ware stoppers—the mode being simple but perfectly efficient, and of the utmost value in packing stores, such as spices, tea, coffee, butter, pickles, or preserves for a long voyage, or valuable essences and drugs. The impermeability of these stoppers, to which iron cramps have not been affixed, may be ascertained by a very simple experiment. Throw a piece of lighted paper into one of the jars, allow it to burn for a few seconds, then put on the stopper, and it will be found that the vacuum created has been so great that to remove the stopper by any ordinary force will be impossible.

It is worth noting, that, although the clay, sand, and coals have all to be imported into London for this manufacture from great distances, London continues to be the place where it is most largely and successfully carried on.

We have devoted some space to these explanations on the manufacture of articles more useful than brilliant, because nothing on the subject of the peculiar differences and advantages of salt-glazed stone-ware has appeared in print in those works which treat of china and earthenware, and because we happen to know that the specimens exhibited have attracted much attention and admiration from distinguished foreign chemists and manufacturers.

GUTTA PERCHA CONTRIBUTIONS TO THE GREAT EXHIBITION.

(SECOND NOTICE.)

In our first notice of the articles made of gutta percha, we gave an account of its introduction to this country by Dr. Montgomerie in 1844, and explained the nature of the tree from which it is collected, and also referred to its chemical properties, and further described generally the modes of manufacturing it at the two great gutta percha establishments in this country. Our present object is to draw attention to the various specimens of both useful and ornamental articles contributed by several exhibitors in various classes of the Great Exhibition.

In the first place, we find some fine specimens of the raw material contributed by Messrs. Bunn and Co., in the North-west Gallery, under No. 77, Class 28. The gutta percha of commerce usually contains a large amount of foreign substances, which swell the size of the blocks and deceive the unpractised purchaser; sometimes even earth has been enclosed within the blocks, which are usually square, but are sometimes made up into fanciful forms, as of fish, birds, &c. Messrs. Bunn show some twisted gutta percha as imported to this country, and also flat cakes of fine quality: we also discover in their case specimens to illustrate the process of manufacture, as slips cut by the knives mentioned in the first notice; then in its minced state, and, subsequently, as masticated, ready to be converted into pipes, bands, or other articles. Messrs. Bunn's collection is completed by a display of pipes, soles, staves, whips, picture frames, balls, string, and wires coated with gutta percha for telegraphic purposes.

Immediately adjoining the case the contents of which we have described, the Gutta Percha Company (No. 85, same class) make a grand display of this useful article in every variety of form; and, for the purpose of illustration, exhibit sections of the wood from which the *gutta* is derived, with the gum adhering to it, as also the bark and the leaf, together with the pure *gutta* as it drops from the tree. In addition to the above, we observed bowls, traces, watering-pots, shoe-soles, life-buoys, thread, card-trays, whips, life-preservers with whistles, inkstands, music cases, valves, cog-wheels, pen-trays, picture frames, chemical bottles, clock cases, lathe bands, pipes for various purposes, slop and other pails, bottle-holders, &c. The articles which we have enumerated are but a tithe of those that may be manufactured from this extraordinary material.

No. 87. Thomas Walker contributes gutta percha hat bodies and nor'westers, some of the former having perforations in their crowns for the sake of ventilation: he also shows a hat-box; but it is far too clumsy in appearance to compete with those of leather as ordinarily made.

The fourth gutta percha stall (No. 90) is that of Mr. Charles Hancock, by whose enterprise the manufacture of gutta percha by machinery was first brought about in this country: all the specimens which he exhibits, including draughtsmen, life-preservers, pipes, frames, curtain rings, &c., are of exquisite finish, the ornamental contributions being very artistic, especially the "Stags and Dogs," a most elaborate production made of a material peculiar to the West Ham gutta percha factory, and known as *metaline*, or *metallo-thionised* gutta percha, which is in appearance similar to bronze. This artistic composition is made up of many pieces, each of which being first united with its neighbour, is subjected in iron moulds to very considerable hydraulic pressure: when put together the whole is finished by the practised hand of a first-rate artist. Water buckets made by Mr. Hancock's gutta percha turning machine complete his collection.

In the same class, but without number, is exhibited by N. J. Herens the hoof of a horse shod with gutta percha: there is no notice appended to this contribution as to its having been successfully applied.

In Class 10, No. 570, North-west Gallery, M. Caplin exhibits a rope ladder, the rounds of wood and the lines of gutta percha.

620. Dr. O'Leared exhibits a *double* stethoscope for ascertaining the state of the lungs; single stethoscopes of gutta percha have been in use for the past three years.

631. Weiss, the surgical instrument maker, exhibits bougies and catheters of the same material, adapted for hot climates. To these purposes the attention of surgical instrument makers was specially directed soon after the arrival of Dr. Montgomerie's valuable contribution to the Society of Arts, in 1844.

Mr. Truman (720, Class 10, North-west Gallery) contributes artificial teeth made from pure gutta percha, which is said to be not only more durable, but, of course, more comfortable to the wearer, on account of softness than the material ordinarily used.

In the Middle Gallery North, No. 419, Class 10, are several applications of gutta percha in connexion with telegraphs, contributed by Mr. F. Whishaw: first a pipe of gutta percha made by hand by that gentleman when secretary of the Society of Arts, in 1845, and also a lathe band, which, no doubt, led the way to machines being constructed for more expeditiously and more economically manufacturing these important articles: then we find three examples of his *telekouponon* or speaking telegraph, which, as a substitute for bells, saves both time and labour—one for houses, having whistles and indicator complete, a second for communicating between guard and driver, and a third for private carriages; this latter is braided with silk. Perhaps there is no use to which gutta percha has been applied more extensively than that of pipes for the conveyance of sound, as first introduced by the above-named exhibitor. The next application is that to the manufacture of Whishaw's telephones, which are used in pairs, being placed at considerable distances from each other, and necessarily in the same focus, and are applicable in cases where the tubes cannot be laid down. The telephone inverted is used in connexion with conducting tubes to different parts of a church or chapel from the reading-desk, or pulpit, or to the vestry-room of a church, or to private houses not far distant from the church. In connexion with Whishaw's Index Electric Telegraph, we find coils of copper wire coated with gutta percha, for the purpose of effectual insulation from wet or atmospheric influence; this mode of protecting wires has now been sufficiently tested, especially in Prussia, to recommend it as the most economical and perfect mode of conducting wires between distant parts. Two specimens of the submarine telegraph conductor are contributed by the same gentleman, which are simply the gutta percha covered wire first braided with whipcord and painted white, to prevent the attacks of fish, and, secondly, coated with marine glue, to prevent the attack of the *teredo navalis* and similar destructive marine insects; these conductors were made years before the experiment of completing an electric circuit across the Channel was carried out, in the year 1850. The wire and covering in that case was increased in section to 7-16ths of an inch diameter, as it was used without the additional strength of braiding, as above-mentioned. The last application of gutta percha, as exhibited by Mr. Whishaw, is that of plugs perforated for as many wires as are intended to be conveyed under ground, in strong glass or earthenware pipes, the plugs being placed at the joints and secured to the glass by white lead or other suitable means.

421. (Class 10). Mr M'Nair contributes a large coil of gutta percha-covered wire, coated with lead, for underground work. This is of course a good plan, but the expense is very materially increased; and as the gutta percha covering has been found to answer the purpose for years, it is perhaps quite as well to mention the fact.

429. Messrs. Brett contribute a sample of the wire coated with gutta percha as used in the experiment across the Channel, which would no doubt have remained in its place much longer if it had been properly protected; but whatever kind of sub-marine conductor may be again tried, it will always be subject to a removal by the dragging of anchors, unless burried in the bed of the Channel, according to the plan adopted in crossing the Rhine, at Cologne, where chain pipes, somewhat similar to those exhibited by Mr. Whishaw are laid down.

In the same class, Mr. Heeps exhibits a pulpit telephonic apparatus to full scale: the sound-receiver, however, is of different form from that of Mr. Whishaw, and instead of being placed in one corner of the pulpit or reading-desk, is fixed outside in front.

130. (Class 10). Mr. Roberts has the hammer of his Alpha clock made of gutta percha, which is found to answer its purpose very well.

There are six contributions of gutta percha articles in Class 8, including life-boats and life-boat appurtenances. The first is a life-boat entirely of gutta percha, numbered 50, and placed against the Western Wall. It is to be observed, that full-sized life-boats of gutta percha have already been used with advantage.

No. 31. John Lavais exhibits a folding buoy and settee of gutta percha, each compartment of which holds an air-tight case.

No. 7. A method of connecting wood and gutta percha is exhibited by John T. Forster, R.N.

No. 60. The gutta percha emigration life-boat of Mr. W. Dyne is constructed with ribs moving on pivots in a line with the keel, the gunwale folding down in the same direction. It possesses, therefore, this recommendation, that fifty of these boats can be packed in the space usually occupied by five ordinary ones. The same gentleman contributes his "Eclipse," or standard life-boat, formed of diagonal battens, similar to lattice-work, its outer sheathing being of gutta percha.

No. 40. A wooden life-boat, rendered more buoyant by the introduction of parallel lines or circular rails of gutta percha.

No. 49. Mr. W. W. Bonney exhibits square life-buoys of gutta percha, which are placed in receptacles or cells on either side of the boat, and secured thereto by ropes.

In Class 16 (No. 48), Cyrus and James Clark, of Street, near Glastonbury, exhibit in the leather department, underneath the Middle Gallery North, their patent "elongating gutta percha goloshes," which may be put on or removed from the feet without the aid of the hand.

In Class 6, Messrs. Parr Curtis and Madeley, who exhibit an extensive series of cotton machines, have introduced small bevilled cog-wheels of gutta percha in place of those of iron, whereby the noise of their machinery whilst in motion is considerably reduced; but at present they have not had sufficient trial of the new application of gutta percha to ascertain whether they will answer in the long run.

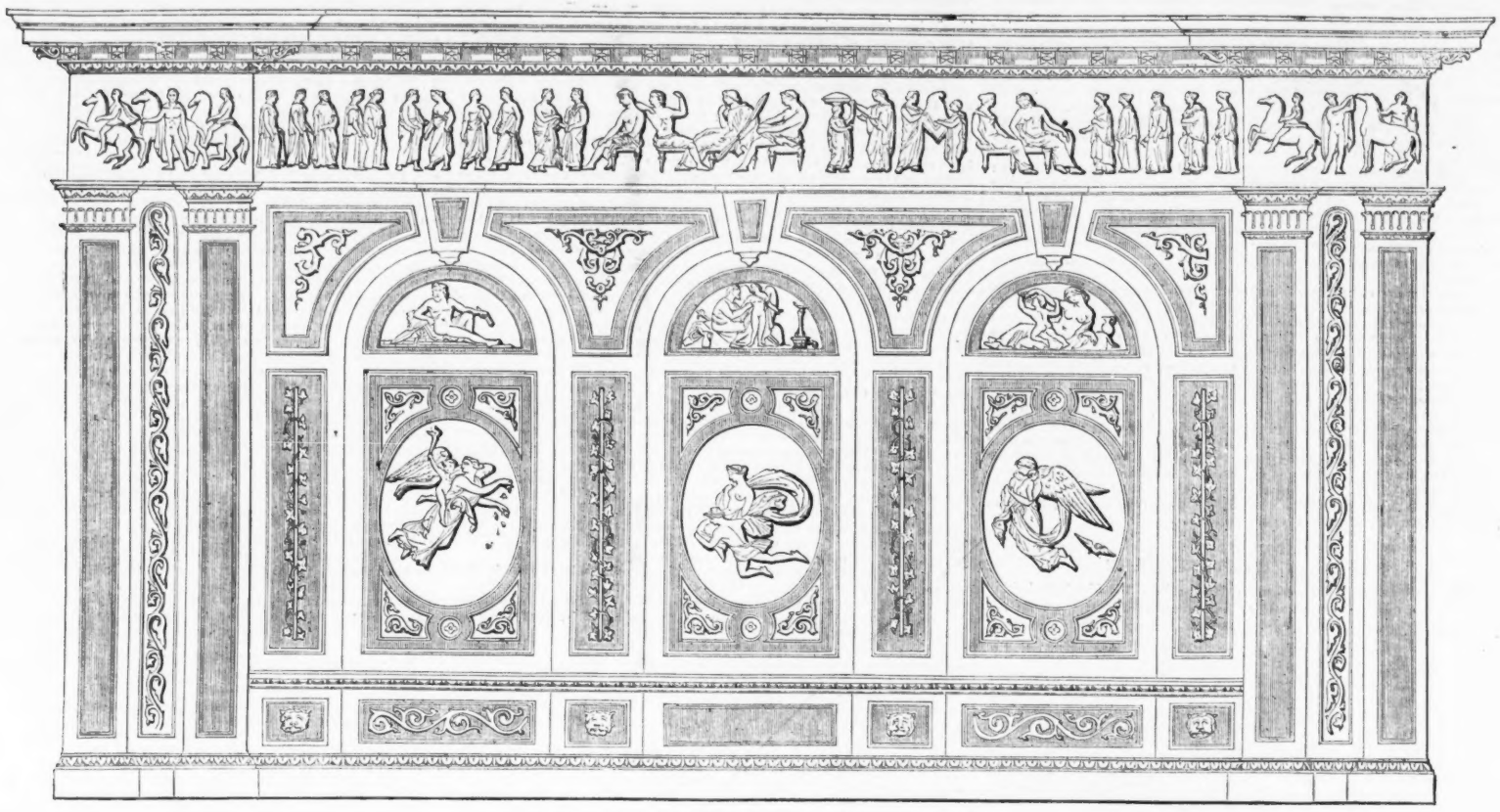
Near to the doorway, leading from the Bookbinding and Stationery department to the Machinary-in-Motion, is a large printing press in the course of erection, for the purpose of printing from circular type made of gutta percha; near to the machine is a table, on which specimens of printing and copies of engravings executed from gutta percha type and plates are exhibited, as also the matrix and stereotype plate produced therefrom. The mode of proceeding in this art is first to obtain the matrix from the metal type, as set up, with the cuts interposed; the gutta percha stereotype cylinder is then moulded, and figured from the same in the patent cylinder press. The cylinder may be ready for printing within half an hour from the time of taking the matrix, which process lasts but a few minutes. The patent press is constructed for at least three cylinders, from two of which one side of the paper is printed as it passes by them in continuous length and in opposite directions; while by the third, or inner cylinder, the other side of the paper is printed. It is worthy of notice that dry paper may be used in printing from gutta percha, which paper may also be glazed if desired.

In the Agricultural Implement Department, Messrs. Burgess and Key exhibit their patent gutta percha union joints for pipes, and also their patent hose for fire-engines and for the conveyance of liquid manure; the hose is made of canvass saturated with a solution of gutta percha.

In the Furniture Department (Class 26), Messrs. Thorn and Co. contribute specimens of gutta percha picture frames, various decorations, brackets, mouldings, &c.

It is quite possible that there are many other applications of gutta percha to be found by long and diligent search in different parts of the Building, but we have introduced in the present notice all that we have been able to discover.

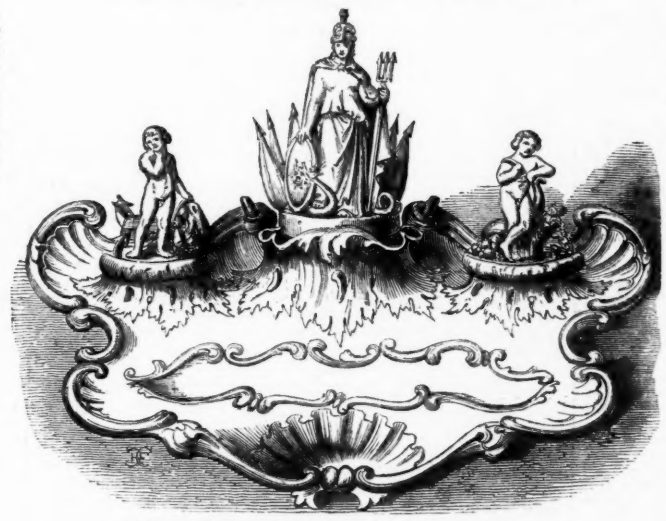
Interior Economy of the Exhibition.—The number of persons that are daily in attendance in the body of the Building, augmenting the stream of its contents, is more considerable, perhaps, than the public in general are aware. In addition to the regular police force and the sappers and miners, there are upwards of 300 persons in the pay of the commissioners, and 2000 exhibitors and exhibitors' assistants in daily attendance. With such a multitude of people engaged in the interior, and the infinite variety of risks which may arise from carelessness and a thousand other causes, the reader may be curious to learn what precautions are taken to provide against accidents. Like everything else connected with this great work, they are extremely simple. In the first place, every exhibitor is left to take care of his own goods in the best way he can, which undoubtedly affords the guarantee for the general security. The most complete protection against fire is organised all over the interior, consisting of sixteen hydrants, several fire-engines, and a large supply of fire-buckets and iron reservoirs, all of which can be brought into play at a few moments' notice. The instant the necessary labours are over (and as little as possible is done after dark), all lights are put out, and the protection of the Building for the night is consigned to fifty policemen, twenty-four sappers and miners, and six firemen, who sleep upon the premises. But how is this extensive area kept in repair, dusted, and cleaned? By a systematic arrangement, equally simple and effective. Six hours, from four o'clock in the morning till ten, are dedicated to these purposes, and are found amply sufficient. It is, perhaps, the only instance on record of a great public exhibition which has received troops of visitors for a period of three months, without having been closed up for a single day to be repaired or refreshed. This Exhibition is independent of such necessities, for which it is partly indebted to its structure, being a self-acting duster and cleaner in its floors and roof.—*Fraser's Magazine.*



WALL DECORATION IN MARTIN'S CEMENT.—BY STEVENS AND SON.

WALL DECORATION IN STEVENS' MARTIN'S CEMENT.

This chaste and elegant piece of work, from the designs of J. T. Knowles, Esq., is intended to show the various purposes to which the above cement can be applied. A minute examination convinces one of the great beauty of the article in its pure white state, as used for the architectural enrichments of rooms, while some portions of the design demonstrate its excellence in the shape of scagliola work; and others shew how well suited it is for painting and gilding upon, which processes can be performed in a few hours after the cement is put up. This material is fireproof, and susceptible of the highest polish.



SILVER INKSTAND.—BY LAMBERT AND RAWLINGS.

SILVER INKSTAND. LAMBERT AND RAWLINGS.

This is a very showy affair, almost too showy for our taste. In the centre we have a figure of Britannia; and, on either side, smaller ones of Commerce and Plenty, executed in frosted silver, and which, we presume, are intended as handles to the covers of the ink and wafer bottles. The tray in front, which is a shell pattern, is richly gilt.

CLOCK-CASE. DESIGNED BY J. BELL.

Mr. Bell has contributed more to ornamental manufacture, in the plastic line than, perhaps, any other artist of the day; and the present is by no means the least happy of his productions, coming, as it does, within the scope of legitimate sculpturesque decoration of a work of utility. It is styled the "Hours Clock-Case," from the fact of the face being embellished with a bas-relief representing the twelve hours circling round the clock; which itself has an enamelled dial, "representing the sun, its centre a flying phœnix, which fable relates is born anew every 500 years." At the base are two figures respectively illustrative of repose at evening, and the wakening to labour in the morning. The apex is crowned with a figure of Psyche, or the soul, looking upward, emblematic of eternity. The whole is prettily conceived, and pleasingly designed; though it might, perhaps, be improved in subsequent copies by omitting the void interval between the figures and the clock face, which produces an effect of flatness which is not satisfactory. The connexion between "the hours" and the clock would also be more distinctly marked by this alteration: the figures might, in short, be represented as supporting it through space. Some modification would, in that case, be necessary in the clock-face itself, which, instead of representing the sun, should represent a clock-face *tout pure*. This work has been produced in electro bronze, by Messrs. Elkington, the exhibitors, in their best style.

SILVER VASE. BY WAGNER, OF BERLIN.

One of the most interesting objects of art contributed by Berlin to the Exhibition of Industry is a magnificent silver épergne, from the establishment of Messrs. Johann Wagner and Son, silversmiths and jewellers to the King of Prussia. It is 4½ feet in height, and weighs 80 lb. It was designed and executed solely by M. Albert Wagner, to whose artistic taste and skill it does the greatest credit. A unity of design runs through the whole. The artist has embodied the "Progress of Mankind to Civilization, under the guidance of Genius." The group of figures at the base, which are designed with vigour and freedom, represent man in the first stage of development, and as the hunter and herdsman. The female figures above denote the blessings of abundance attending the more regular pursuits of cultivation and husbandry. The bas-reliefs which encircle the outside of the vase have a reference to both these ages. Here closes the external struggle with nature. From within rises a palm-tree, surmounted by Genius bearing a torch, and strangling the evil principle of ignorance, typifying the internal culture of the soul to its perfectibility. The figures are sculptured, embossed, and cast, the workmanship of every part being of the finest description. The vase was exhibited for some days in Berlin before being shipped for England.

SILVER VASE.—BY WAGNER, BERLIN.

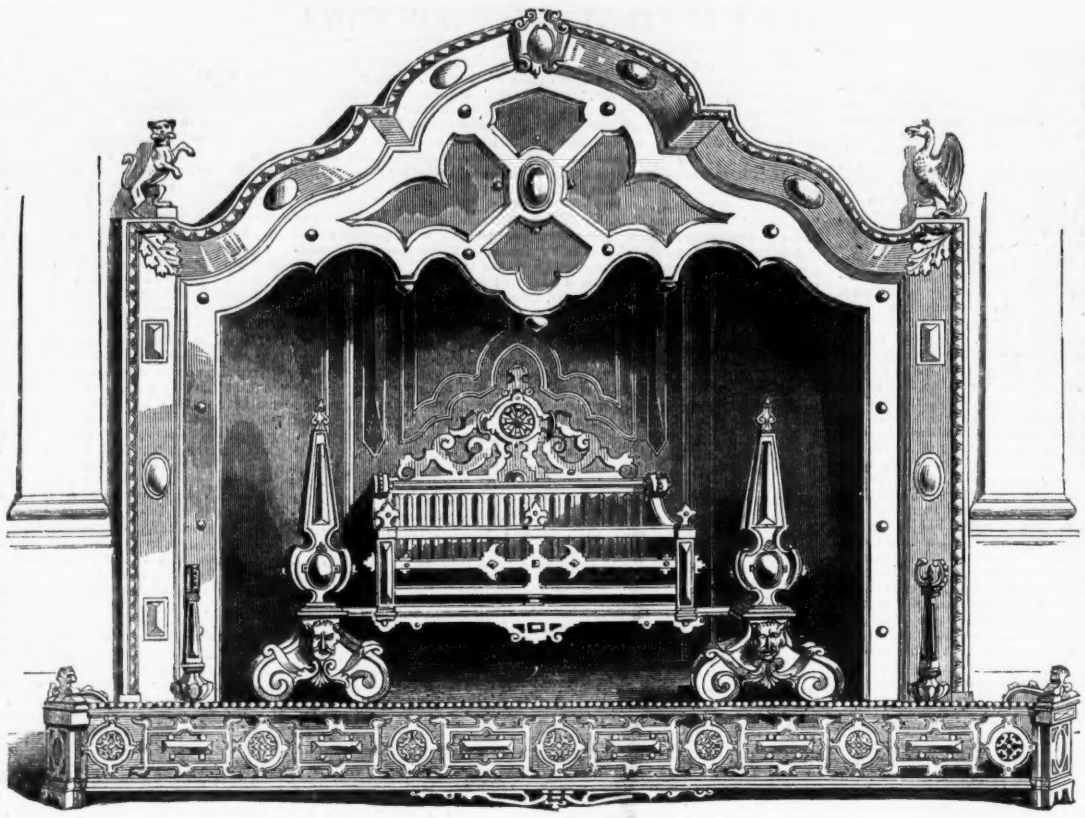
CLOCK-CASE, DESIGNED BY J. BELL.—BY ELKINGTON AND CO.

ELIZABETHAN GRATE. PEIRCE.

This is a very handsome and satisfactory production. It is a fac-simile of one made for the drawing-room of the Earl of Ellesmere, at Worsley Hall. It is in the pure Elizabethan style: the bars are of dead polished iron, the back of fire-lumps, with cast-iron ornaments on the upper part; and the grate is supported in front by two handsome dogs of solid British silver. The ornamental curtain around the grate is after the pattern of one made for the contraction and cure of smoking propensities of a large chimney at Carew Hall, the seat of Lord Carew. The Elizabethan fender is also of solid British silver; and the general appearance of the whole is appropriate to a stately baronial hall.

VASE IN ELECTRO-PLATE.—ELKINGTON.

This very handsome vase, designed and modelled by Mr. W. Beattie, is intended to represent the Triumph of Science and the Industrial Arts in the present Exhibition. The style is rich Elizabethan. On the body of the vase are four statuettes of Sir Isaac Newton, Lord Bacon, Shakspeare, and Watt, respectively personating the genius of Astronomy, Philosophy, Poetry, and Mechanics. Between these figures are four bas-reliefs illustrative of the practical operations of Science and Art; whilst on the base their benign influences are typified by figures, the overthrow and subjection of War, Rebellion, Hatred, and Revenge. The recognition and the reward of these ennobling pursuits are symbolised by the figure of his Royal Highness Prince Albert, on the apex, who, as originator and patron of the Exhibition, is awarding the palm of honour to successful industry. The height of the vase is four feet. The execution has been very carefully and successfully carried out.



ELIZABETHAN FIRE-PLACE.—BY PEIRCE, JERMYN-STREET.

CENTRE-PIECE. ELKINGTONS.

This is a large and showy centre-piece for eight lights, in silver and electro-plate. The design is of a very ordinary character, by which we would imply no disparagement of the labours of the producers, but rather a reflection upon the tastes of purchasers, who "ordinarily" love to load the centres of their tables with as large and impervious a mass of plate as they can afford to purchase. To produce these structures, little boys are called into the service by dozens, without having time to dress themselves, and there they stand *in tiers*, with fruit baskets upon their heads, and thorns or unkind roeks wounding their unprotected feet. One of the greatest evils of this style of table furniture is that it intercepts the view across the table, both side ways and lengthways—obstructs conversation; and not only that, but that interchange of smiles and intelligent regards in which half the charm of a social party consists. We should be glad to see these pompous displays—we might almost call them *pompes funèbres*—discarded, and something more rational, something quite as handsome, but less intrusive, supplied in their place. Indeed, Messrs. Elkington themselves exhibit a dinner service, designed from the antique by the Chevalier de Schlich, which is perfectly to our taste. Here the centre-piece, which is of elegant design, does its duty as a piece of ornamental furniture, without obstructing the free circulation of air and thought in the midst of the table; adds to the effect of a handsome banquet, without monopolising all the attention to itself.

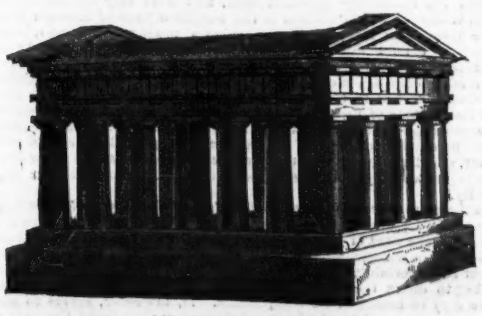
PIANOFORTE. BY MONTAL.

This is a very elegant piece of furniture, in rosewood, richly embellished with marqueterie and bronze ornaments.

MONUMENT TO THE EARL OF DURHAM IN CANNEL COAL

This model has a double interest, first, as a memorial to a departed statesman of undoubted ability and patriotism; and, secondly, as a specimen of the capabilities of the material in which it is produced. The cannel coal is of a very hard and clean quality, and is nearly as available for the purposes of sculpture as jet, which it much resembles.

VASE.—BY ELKINGTON AND CO.

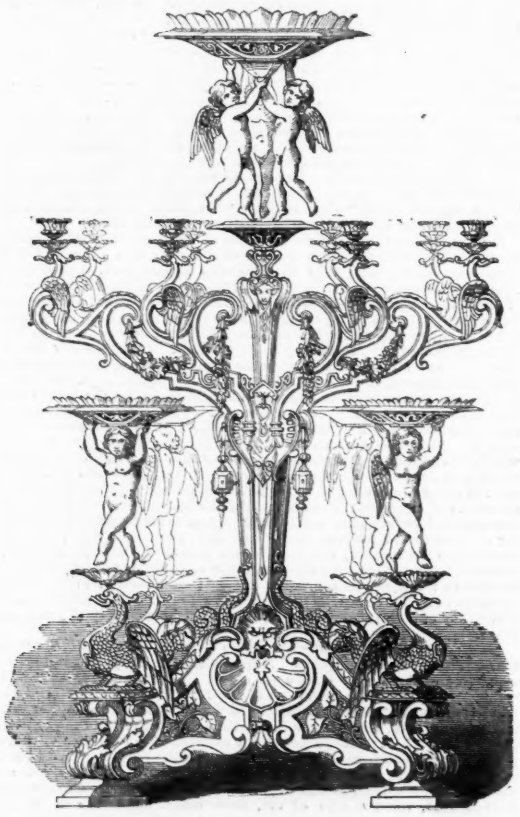


CANNEL COAL MODEL OF THE EARL OF DURHAM'S MONUMENT.

CANDELABRUM.—AUSTRIA.

CANDELABRUM. AUSTRIAN DEPARTMENT.

The design, by B. de Bernardis, a German architect, is good as an instance of how the Italian styles are understood in Austria. It is very elegant, and the massiveness is placed where it should be—in the base. It was produced at the foundry of the Prince of Salons, at Vienna; and it must be remarked, despite what has been said of German casting, that this work is not superior to that of the Coalbrookdale Company, of which several samples of large dimensions, and in various styles, are in the Exhibition.



CENTRE-PIECE FOR TABLE.—BY ELKINGTON AND CO.

PIANOFORTE, IN ROSEWOOD.—BY MONTAL.

ARTISTS' IMPLEMENTS, &c.

FROM the earliest history of painting, we learn that artists were invariably in the habit of mixing their own colours and making their own brushes. This practice has continued within comparatively a few years of our own time. For information with reference to the former fact, we would refer to Mrs. Merrifield's elegant translation of Cennino Cennini's "Treatise on Painting," which was contributed to our art literature in 1844, and deserves to be extensively known. There are but few, if any, of our artists who now grind or temper their colours, but who, on the contrary, prefer purchasing them from the colourmen ready for use. This practice forms a new era in art, and it may be one of considerable consequence to its progress. The artists, it must be admitted, thus gain some advantage over the old method; although that knowledge of the properties of each colour, its durability or fugaciousness, with which the masters of old were necessarily acquainted, is by this course, in most cases, denied to the moderns. So seductive is this plan, that even the artists of Italy, of Holland, &c. have, upon their arrival in England, fallen into it. It is well known that Mr. Sang, amongst these, when he left Rome for England, partook of the system generally adopted here. This facility he found to his cost not always advisable with regard to every colour; and he had to fall back upon the practice of his native country, and that of many of his Munich brethren in art, and he prepares most of his media now himself, and hence that unrivalled brilliancy and transparency of tints as exemplified in all those of his works painted within the last six years. It may be questioned whether the permanence of ancient pictures is not attributable to the elaborate insight of their painters into the nature of the pigments they made use of, and, above all, to the simple manipulation of their works, and the few colours actually enlisted into their service. It is obvious that the number of colours since the time referred to has been considerably augmented; and now, as may be seen by any list procurable at artists' warehouses, they amount to an aggregate almost sufficient to deter the beginner from entering the lists of art. To those who would wish to make themselves conversant with the several names and the properties of pigments, we would recommend an attentive study of Mr. Field's "Chromatography," who, to a profound chemical research into the capacities of all colours for good or ill, adds much general information invaluable to artists. Upon matters of detail it must be obvious we should be necessarily terse; although it is difficult, at the same time, to confine ourselves to generalities where the subject is so replete and tempting; and therefore we plunge at once *in medias res*. It is then with "Artists' Implements" of our own period with which we have to deal, and as they appear at the Exhibition of which we have to write. We will, therefore, append any observations we have to make to the several items under review, as Pat passed his counterfeit shilling amongst his sterling coppers.

And here, as a matter of paraphrase, we would say a word upon testimonials. We cannot but consider that the readiness with which artists in general give these written vouchers to the character of the materials submitted to them is deserving, in some instances, of the severest reprobation. Colours are at once pronounced to be pure and enduring that have not been tried more than a few days, if tried at all. Pencils and brushes as quickly obtain certificates for excellence, although they have not undergone the ordinary ordeals to which they ought, and will have, to be subjected. And how is this, that a body of men, well known for their refined sensibilities and exalted notions of honour, should thus thoughtlessly give force and value to the designs, it may be, of the mere charlatan? A box of paltry colours can have nothing to do with the inducement. Can the parade of name, which is afterwards to be made in circulars and advertisements, be sufficient to account for so much of confidence? Are we to attribute it to that unbusiness thoughtlessness, to which most men of talent and genius are said to be prone? In any case, it is a custom which reflects discredit upon the arts, and tends to cast suspicion upon testimonials in the mass, the more particularly when the same names are found to be attached to "*the very best of their kind*," although the uses of the material subscribed to are identical. In justice, however, to the artists who have thus pledged themselves to the excellence of some description of materials, we may state, as a caution to them personally, and to the public generally, that these gentlemen have been grossly imposed upon—colours, crayons, and pencils having, in more than one instance, been sent of the first description and quality, for the purpose of eliciting an autograph encomium, which has afterwards been used for inferior and trashy productions.

No. 1 in the Fine Art Court shows us several contributions from Mr. T. Miller, of Long Acre. These consist of specimens of paintings in "silica colours" and "glass medium," but which appear to exemplify no one particular virtue unattainable by other pigments.

It must be borne in mind, that persons of property lay out their money upon modern art as much for the love of it for its own sake, as for an investment of capital. It is likewise well known, that, whatever the leading connoisseurs in art purchase, at once rises in value from the fact of their choice having fallen in that direction; and that such works, when brought to the hammer, fetch much higher sums than their original price, by reason of the *prestige* acquired by being selected by men whose judgement and taste may be relied upon. To add to this inducement to invest money, there exists the pleasing duty of exercising a refined discernment, and the legitimate fame consequent upon the title of a judicious patron, and the attendant acceptance by the public that such a desire for acquisition is prompted by an elevated intellect far above the average run of men. But suppose a picture is found to crack—to fly—to fade—its shadows to lose their transparency—the "light within" to become dull without—one colour to sink beyond recal, another to glare in the opposite extreme—a sky in its pearly greys to turn green; and, in a word, after a few years this picture should retrograde in its evidences of talent, and from a marvellous production become a tame leathery and vapid daub, what then? Its undoubted genuineness may for a brief period keep up its price. It is doomed to sink; and, but turn it into the market, and from the rooms of Christie it will fall to those of Leicester-square, to the exquisite mortification of the painter, if living—to the injury of his fame, if dead; and, finally, to the serious detriment of modern art, as it would serve to awaken its patrons to the mutability of their investments and consequent impolicy of their purchase.

Most of the pictures themselves, more particularly that of the "Genius of Peace," are distinguished for considerable ability in handling, and a correct probationary course of study. In that of Mr. Corbould's "Britons deploring the Departure of the Romans," we fancy we detect amidst its "trick," more particularly in the orange mantle, in the surge of the sea, and on the shore, an indication of "body," and the presence of a *medium* which belongs less to the element of water, than of that of gums, resinous compounds, or of oil. As a work of art, we object not to the use of any extraneous aid; we have to deal with it as an evidence of the powers of a particular and express fact; and we could, therefore, have desired that, for the sake of art, that which appeals to us as possessing extraordinary claims upon attention, should have brought with it the first necessary proofs of superiority.

The brushes in this case appear admirably made; and, in this respect, Mr. Miller, we believe, stands almost alone, having had a long practical experience in this branch of trade, which requires an intimate knowledge of the wants and caprices of the artist.

No. 3. Rowney and Co., Rathbone-place.—These gentlemen savour a good deal of the fashion of the time, and give us an almost bewildering classification of colours. Their dividing Naples yellow into tints is, however, a valuable exception, and their desire to supply the artist with a cheap, and, at the same time, a good article, is entitled to praise.

No. 5. W. H. Kearney, Brompton, gives examples of crayon painting, executed with his Venetian pastils, which are impervious to damp, and, therefore, adapted to many decorations hitherto beyond the reach of ordinary painting.

No. 6, Roberson and Co., Long-acre, show a very good selection of canvas, painting-brushes, and pencils, which is indicative of a sterling respectability without meretricious allurement. His palette-knife, for placing the colour on the canvas or panel, without the aid of the brush, is a neat adaptation of the common trowel-handle, and will be found of much service, where boldness of impasta is required. There are several specimens of water-colours, in collapsible tubes, admirably adapted for sketching from nature; and a newly-invented oil sketch-book, very light and convenient, and which enables the sketcher to carry two wet paintings without injury. The prepared canvas in the same case is worthy of remark, from its being a successful attempt to give to that fabric the surface of fine panel.

No. 7. Messrs. Reeves and Sons, Cheapside, London, contribute a case of some importance to artists, inasmuch as it contains the proofs of an efficient substitute for the far-famed black-lead mine of Cumberland, which is now thoroughly exhausted. It is well known, that, for all purposes having reference to art, this lead of Cumberland was unsurpassable; that no other could compare with it in quality of colour, absence of grit, or was so easy to erase; indeed, that no other yet found could be thus made use of in its natural state. That from the Balearic Islands is "cindery;" that from Ceylon, though purer than any plumbago known, in the excess of its carbon, and the small portion of iron and earthy matter, is too soft and flaky; that termed Mexican is really produced from mines in Bohemia, and is also friable and earthy. Other varieties, from Sicily, from California, from Davis' Straits, and elsewhere, have been tried, but all have proved unfit for the use of the artist. Cumberland lead is the only black-lead that in its native state could be cut into slices, and thus be inserted into the channels of the cedar pencils; this being alone a remarkable test of its superior fitness as a native lead. The substitutes for Cumberland lead are manifold, some or all of the varieties of the leads before mentioned being worked into pencils variously designated "prepared," "purified," or "composition." These different leads, by means of gums and resinous matters, are either kneaded in a plastic state and forced into the channels of the cedar wood, or more frequently combined and ground with substances with which they will bake to the required hardness, or with others which will fuse, and the mass solidify when cold. Lustre, intense colour, freedom in working, and ready erasure, Cumberland lead possessed in an eminent degree beyond all other leads known; but its uncertain temper and occasional grit—properties common to all leads in a natural state—gave rise to its amalgamation with other substances which have been enumerated; and though some of the qualities in which Cumberland lead failed have been obtained with varying success by these amalgamations, its especial and valuable qualities when pure have in the same ratio been deteriorated and destroyed. Thus the artist has been left to choose between the evils of a native and a spurious lead, until the somewhat recent discovery of Mr. Brockedon of a process by which Cumberland lead is made perfect. It would seem that these pencils are especially made for Messrs. Reeves and Sons, and that they are unquestionably what they affect to be. Another important evidence of successful trade enterprise in aid of art is to be found in the water-colours prepared with wax, as shown in this case. They dissolve with ease, possess great volume and transparency; and, moreover, they cannot be converted into flint by hot temperatures, so often the fate of the ordinary water-colour. The introduction of a medium of the purest wax into the manufacture of water-colours was a stage in the art of water-colour painting deserving of honourable mention. It has given to this delightful department of art facilities of unapproachable character, and tended to rank it very close to that of oil, which it surpasses in its powers of drying, the advantages of smaller space, and ease of carriage. Very many have been the attempts to give body to the colours used with water, and a variety of media have been used for this purpose. One of these is the more particularly worth mentioning, as showing the avidity with which anything new is seized upon, even by the intelligent and discerning, and the effects which followed a too confiding credulity. We allude to the use of honey for the purposes above stated. This medium certainly had the desired result of keeping the colour with which it was mixed in a moist state; indeed, if the brush was too fully charged with it, those parts of the drawing to which it was applied would not, unless in hot weather, or in a warm room, dry for some time; and even when dry, such drawings, if exposed to a humid atmosphere, became "tacky" again in their folio or elsewhere, and stuck to their unctuous companions in the most sweet but destructive union. A drawing finished with these colours could not be left a moment with safety. The flies, attracted by the tempting treat, would moisten the choicest parts with their probosci, and tattoo the human face divine, or give to that lovely of woman all the appearance of being ravaged by small-pox. It was no unusual thing to find a flock of sheep disappear from a common, a *château* shattered and unroofed in a night, and a litter of pigs and a cow or two carried away in a fly. Nor was the artist himself exempt from the annoyance of their perseverance and pilferings. To paint from summer nature in the open air was to look through a swarm; and the head of the luckless draughtsman became like a hive in the midst of it—winged insects of all descriptions, attracted by its virtues, assembled at the opening of this box of Pandora, and ruthlessly attacked and devoured the creations of art under the very nose of the designer. Nothing came amiss to them. Fresh and gushing mountain streams were rendered dry in a twinkling, and the salt and boundless sea left nought but a sheet of paper. Like Orpheus, they moved whole rocks, and levelled mountains with a speed which would raise an envy in a railway contractor. The foliage of the forest and the herbage of the plain changed into sterility under their locust-like influence; and it is even asserted that a large spider, painted with the fidelity of life, possessed no terrors sufficient to overcome the attractions of its saccharine formation.

The fields of art are haplessly subjected to many visitations of the fly—would that their causes were as easily estimated and as readily removed.

The allusion to a temporary false step in the onward progress of chemical research in art naturally—although in a very oppositive category—directs our attention to the subject of "frauds," a very strong term, but nevertheless true—frauds upon artists. It must be in every father's experience—in that of every director of youth—that there is a particular period in a boy's life when the yearning for a "box of paints" becomes positively painful, according to the amount of difficulty which surrounds its possession. A guinea obtained, the next fancy-stationer's is resorted to for the much-coveted box. There it lies upon the counter, with its lid slightly and mysteriously raised, displaying just enough of its contents to increase a desire of ownership. The prize secured and borne homeward, paper ready, and plate upturned, the attractive colours are rubbed one by one in neat array upon the delf. A good specimen of water-colour has been "lent to copy," and now comes the first essay. All the efforts of the tyro to imitate the flat tint of its sky or the rich impasta of the foreground are of no avail. Time and perseverance but add to the vexation. His colours are poor, weak, thin, and washy. He is, however, ignorant of this fact. Young and confiding, the shop which boasts of being "established" at a period when his father was a boy, would never stoop to cheat. He throws aside this attempt and tries again. The acrid qualities of the colours either penetrate through the paper, or, for want of sufficient grinding, their crude and earthy particles are floated about for an instant on the surface, and the next left in spots and patches. Here is a young and ardent lover of nature, stimulated by a noble mind and an intellect delighting in invention, shamefully surrounded in his first encounter by disheartening difficulties, which are the more serious because their cause is not understood. At the very threshold of the temple of art he is rudely repulsed by the sordid and fee-seeking, who sell him a clumsy and useless key, and falsely deny that either Talent, or his senior partner Genius, are within. There exists not the shadow of excuse for this abrupt rebuff. The profits upon art appurtenances are large and ample; and the thus adding to positive extortion, the intimidation to modest merit, is as cruel as it is dishonest. But, says the advocate for cupidity, any description of colours will do for a boy to begin with. Then, if such be the case, why charge as for the best? But it is not the fact. It is true that there are professors (save the mark! it is a correct one) of music, who do not hesitate to set a girl down to a piano "of any sort;" but will any rational person, who is impressed with the divine gift of the appreciation of sweet and harmonious sounds, affirm that such a course would not tend to vitiate taste and injure an otherwise correct ear? But we must restrain ourselves. Our indignation would carry us beyond our limits; for in the indulgence of it we should have to bring forward a quantity of "damning facts" capable of swelling a volume, much less the necessarily prescribed space of our Journal. The little we have said will be appreciated by those who, together with a love of art for its own sake, follow it from poverty or necessity.

We shall add a few more remarks, partly borrowed from an article by Mr. Brockedon, upon the black-lead pencil, a more important auxiliary to art than would at the first thought be supposed. It is not generally known that lead dust, or inferior plumbago, is combined with sulphuret of antimony, or pure sulphur; and the greater the proportion of this ingredient, the harder the composition. When ground with the lead—generally that called Mexican—the compound is put into an iron pot, or frame, and subjected to the degree of heat required to semifuse the combining ingredients. It is then, whilst hot, put under a press, and kept there until it is cold; when it is turned out as a block, ready to be cut into slices, and inserted in the cedars.

The impossibility of rubbing out a composition when sulphuret of antimony is used, led to the rejection of the sulphuret and the employment of sulphur only, treating these ingredients as before. This makes a better composition in the quality of rubbing out, but possesses, in a greater degree than the former, a serious evil. The sulphur is readily set free by bodies which attract it, and memoranda made with this composition can be reproduced although rubbed out, so far as with such composition is practicable. If the place where the writing was be wetted with an alkaline liquor a sulphate will be formed; and if, after drying, it be again wetted with acetate of lead, it will exhibit the writing in sulphuret of lead. This is obviously a most dangerous property for persons who may require to make notes not intended to remain or be again producible. To an artist it may be very injurious as regards the purity and security of his productions, for many of the colours which have metallic bases, are liable to be affected if they come in contact with the lead of sulphured pencils. A ready and simple experiment will place our readers in possession of an infallible test, and thus protect that portion of them with whom the fact is of consideration from so deceitful an instrument. Draw some lines with the suspected pencil on a sheet of paper, and place these lines in contact with any bright, smooth, silver surface—a spoon, for instance: in a few hours, if these lines contain sulphur, corresponding dark lines will be found on the spoon, formed by the action of the sulphur on the metal. A good black-lead pencil may yet more readily be known. It should work freely; be free from grit, yet without a greasy, soapy touch; bear moderate pressure, have a lustrous and intense black colour, and its marks be easily erased. It should be borne in mind, however, that no pencil appears to be the same at all times. This arises from the nature of the paper, whether hard or soft, or the condition of the atmosphere, which affects it materially. The same pencil, on smooth or rough, moist or dry paper, will mark as if four different pencils had been used. The softer or darker degrees of lead are weaker, and yield more readily than the harder varieties.

The varieties of German pencils, with ornamental exteriors, which have recently been imported in large quantities, are, it appears, made of clay mixed with Bohemian lead, and a glass which fuses at a moderate temperature: these materials are ground in water together, and dried slowly to a stiff plastic state, and then put into a vessel like that used for forming maccaroni; under a powerful press this composition is forced through holes in the bottom of the vessel, thus forming the material into square threads of the required sizes. These are laid in convenient lengths in wooden troughs, which keep them straight until they are thoroughly dried. They are then laid in similar troughs or channels on iron plates, and put into a muffle, or furnace, subjected to a degree of heat sufficient to render them hard and insoluble, and are then placed into the channels cut in the wood, and glued there; the different degrees of hardness depend upon the proportion of the ingredients. All these pencils, however, are harsh in use, and their marks cannot be entirely erased.

No. 8. Green and Fahey, Charlotte-street, Portman-place, exhibit folding drawing models in three series, illustrative of perspective, and the principles of light and shade, which will be found of service both to master and pupil in the elementary studies of art.

No. 9. J. E. Cook, Greenock, Scotland, exhibits prepared panel for amateur painting, which requires but a day or two to be ready for the artist. Mr. Cook is deserving of much praise for this attempt to give facilities for the obtainance of material to the young beginner, who is too often cramped for the want of the necessary funds. It is related of Wilkie, that, by partly pulling out a drawer from a set, he made himself an efficient easel; and of Sir Benjamin West, that he obtained his first brushes by taking the hair off the tail of a favourite cat.

No. 31. F. Harvey, Oxford, shows an easel for artists sketching out of doors, containing everything required. This is a judicious arrangement of materials, and one hitherto much wanted. We trust, it will not be long ere greater activity be given to the trade of which Mr. Harvey is a member, by the appointment of professorships of painting, sculpture, and architecture at our Universities. Why should not the youth of England, in their more docile years, acquire a taste for, and a love of, art, the more as they are in after life to become patrons, and sit in learned conclave at committees of taste upon the merits of the rival works of the greatest men of their day. It would tend greatly to rescue them from egg throwing and chicken hazard, and other low and frivolous pursuits, too often the resource of those who have nothing to do, rather than the offspring of innate vice. The sister arts have their professorships; why, then, should painting be driven from the seats of learning?

No. 129. Wolff and Son, Spitalfields.—A selection of chalks and Athenian crayons, which appear of a superior description.

No. 130. E. F. Watson, Piccadilly, has sent some excellent specimens of gilding, which contrast strangely with the cheap gold frames around. There are few artists but are aware how much their productions depend upon the frame by which they are surrounded; and while a picture shall appear surpassingly beautiful in one frame, it shall seem poor and ill-conditioned in another. This perception of the class of frame required for the particular style of picture is granted to but few of our frame-makers; and we are led to believe that it is of the fact that Mr. Watson being an amateur artist himself, that is to be attributed his possession of the gift in no ordinary degree.

It may here be remarked, that the "cheap" frames, now so much in vogue, which meet us at every turn, are the dearest the artist can purchase. The yellow preparation of their groundwork, but once, and barely, covered with gold (and that "gold" too often of a spurious Dutch character), peers through in unutterable poverty of aspect upon the slightest contact or friction, while the warmth of a room creates gaping crevices at each juncture, and cracks and shrivels the composition ornaments as though they consciously shrunk from contact with the green wood and its shabby disguise, upon which they had been so unceremoniously placed.

It may be taken as an axiom, that an oil painting should never be exhibited without a good frame, or a drawing without being properly mounted.

No. 242. T. Carrick, Montague-street, Portman-square.—Mr. Carrick is a clever miniature painter, but we cannot recognise any additional virtue in white marble, as a "ground," over the ordinary material in ordinary use, to compensate for that coldness of general effect which will necessarily arise and pervade the work from the nature and tone of the marble. It certainly, for many purposes, offers considerable inducements to the painter, and its granular and regular surface renders the touch more easily capable of finish; but its hue lacks the warmth of ivory, and assimilates little with flesh tints. We question whether the contact of any hard substance would not cause the work to chip, and even the application of the finger nail to make it "fly."

No. 245. Gear, J. W., Charlotte-street, Fitzroy-square, exhibits a composition to supersede ivory for large water-colour paintings. The inventor, who is likewise an artist, informs us that it can be manufactured of any requisite size without a join; the colours, he adds, appear brilliant and clear upon it; and, as it is capable of being used in every respect as ivory, without the brittleness of other substitutes, it will be found deserving at least of the attention of the artist. We have no other means of judging of its merits than the single sample in the Exhibition, which, being completely covered with a drawing of but average talent, denies us all opportunity of doing more than quote its discoverer's book. This and similar inventions to supersede ivory, which *once* could only be obtained of a limited size, however praiseworthy, are, where this is the object, no longer of importance, as ivory, by rotatory motion and fixed vertical saws, can now be cut into sheets of almost any extent. This observation will therefore likewise apply to

No. 250. Sir W. Newton, Argyle-street, who contributes several miniature paintings of his own, to exemplify a power he possesses in secret of "joining ivory together without the seam becoming apparent." These specimens are, however, unfortunately selected for the purpose. The seams, to our eye, *are* apparent, and more particularly in that of "The Homage," where a join runs the full length and breadth of the picture, in defiance of the thick and heavy "handling," obviously intended to hide it. And this undue amount of colour appears to us to be the mask chosen to conceal the joins; and the consequence is already, and will be yet more so, that a departure from the customary thinness of miniature manipulation will carry with it a perishability hitherto foreign to this course of art. Even now the paint is blistering and crumbling from its "ground," and large patches are ready to fall off in scales so soon as the glass be removed, or the frame meets with the slightest shock.

In Class 2, amongst the "Chemicals," will be found an exceedingly interesting case from the firm of Messrs. Winsor and Newton, of Rathbone-place. It is well known in the profession that these gentlemen are essentially practical men, and have very extensive chemical works for artists' colours in the neighbourhood of Kentish Town. Here they show samples of the colours produced by them, many of which cannot fail to strike the eye with their great purity and richness; more particularly the purple madders, the extract of gamboge, the madder carmine, and the oxide of chromium. They likewise exhibit the dense oxide of zinc, or Chinese white, originally prepared by them, and the sulphate of barytes, or constant white, which, had it been discovered earlier than it was, would have saved many valuable drawings from the sacrilegious hand of the restorer, nearly all the white for water colour, sold for that purpose as "constant," turning *black* in a few years. The *papier maché* palettes for water-colour painters in this case are a novelty.

In the same Class—Chemicals—Mr. Parrott, the artist, of 7, Cleveland-street, has deposited some specimens of a semi-transparent brown colour, from the smut of corn, by the admixture of which, in oil colours, or dilution in water, many shades are of course obtainable and, as the colour itself certainly differs from most other browns in its properties, we beg to direct the attention of the chemist to the discovery, that more may be known of its components. It, moreover, serves to show that there exist artists who have not altogether abandoned the once necessary duty of analytical research into the various natural products by which they are surrounded, with a view to render them practically subservient to the requirements of their profession.

In No. 1, Class 17, a somewhat dark place, is a selection of fancy stationery from the old-established house of Ackerman and Co., of the Strand. Amongst it is a colour-box, fitted up with every requisite the amateur may desire; the whole arranged with great elegance and taste.

Mr. Grundy, of Manchester, exhibits in Class 26, No. 121, some very beautiful specimens of frames, which are intended to display to the best advantage fine engravings, drawings, and other works of art, and adapting them for the tasteful embellishment of the drawingroom, boudoir, &c. Those for drawings are exquisitely beautiful; and by a simple contrivance, the works are sunk or inlaid in the *matte*, or mounting, which preserves them from injury, while they are likewise kept perfectly flat, and do not touch the glass. The frames are altogether lighter than usual, take up less space upon the walls, and have a charming appearance when relieved by a buff or scarlet ground. Water-colour drawings, and the lighter descriptions of oil-paintings, are surprisingly benefited by this ornamentation, while prints appear to be very considerably enhanced in value by such means. The new method of mounting water-colour and other drawings, without cutting their edges, we believe, is due to Mr. Grundy; and the advantage of placing them beneath, instead of above the card-board, &c., owes its origin to his brother, of Regent-street.

HARTLEY'S MODELS OF A GLASS-HOUSE AND GREEN-HOUSE, &c.

Messrs. Hartley and Company, of Sunderland, finding themselves in the position of many other exhibitors who were not on the spot during the allocation of space in the British side of the Building, were glad to avail themselves of accommodation on the east side of the United States division, and south of the great eastern or Foreign entrance. It so happened that our brother exhibitors from the other side of the Atlantic found, that, instead of 25 acres, which they originally applied for, they had not collected a sufficient number of articles to occupy anything like the area which had been allotted to them, and they at once, therefore, kindly gave up a tolerable slice of their portion to the Messrs. Hartley, and other Sunderland exhibitors, who would otherwise have been cramped within a very small space in the western division, or shut out altogether.

The model of an eight-pot furnace glass-house is the most conspicuous object in Messrs. Hartley's collection. The cone is made of bent glass, which, from its peculiar shape, and from the radius varying, is a very difficult task to accomplish. This arrangement, however, enables the visitor carefully to inspect the interior arrangement of the furnace and "pots," or crucibles, in which the material is mixed, and also the "cone," or tunnel, by which alone any air is admitted into the glass-house while the operation of melting the metal is going on, and which, of necessity passing through the furnace, forms a constant blast, by which means a greater heat is obtained than is required in any iron-works. This model is constructed to a scale of 1½ inch to a foot; the diameter of the floor of the model being 7 feet 2 inches, the height of the floor from the basement 1 foot, and the height of the cone 12 feet.

The model of a greenhouse, 4 feet 2 inches square, is interesting, as being constructed on the "ridge and furrow" principle adopted in the construction of the roof of the Crystal Palace. In 1846 Messrs. Hartley constructed a conservatory in the horticultural gardens at Chiswick, and several others in different parts of the kingdom. By this plan, Messrs. Hartley did away with the lap-joint, making the whole length of glass, from the gutter to the ridge, in one piece.

A third model of a ridge and valley roof is also exhibited, being constructed of rough plate glass, each square being 62 inches long, 18 inches wide, and ⅛ of an inch thick; the weight being 30 oz. to the foot superficial. The strength of this glass is sufficient to resist the effects even of the most heavy hail-storms.

As the products of the various stages of the glass manufacture are shewn contiguous to the models already described, it may be as well to give an account of the different stages, first, of the manufacture of *crown glass*, and, secondly, of *sheet glass*.

The material having been properly and sufficiently fused in the furnace, is collected on the end of an iron tube called the "blowing-pipe," by a workman called the "gatherer," who, by continual practice, is enabled nicely to calculate the weight of metal required: this constitutes the *first* stage. The glass so collected is next handed over to the "blower," who, by the first inflation, produces a hollow piece of glass, in shape somewhat similar to a pear: this is the *second* stage. The glass having become cooled, is now removed to a furnace used for the purpose of warming the glass for further inflation, by which a globe of the diameter of 18 inches is formed: this constitutes the *third* stage. It is then taken to another furnace; again heated; and, for the last time, inflated into the shape of a sphere of the diameter of about 24 inches, forming the *fourth* stage. At this point, a small piece of glass attached to an iron rod is brought by a boy, who fastens it to the opposite end of the globe to that to which the blower's pipe is attached. The blower, by a little cold water applied drop by drop with a piece of iron, and a sharp blow from a wooden mallet, severs his pipe from the globe, leaving a circular opening therein. Here the duty of the blower is at an end, and thus the *fifth* stage is accomplished. The globe of glass is then taken to another furnace, for the purpose of heating the thick end whence the blower's pipe has been removed, previously to the first part of the process of opening being commenced—forming the *sixth* stage. This operation requires more skill on the part of the operator than any of the others, and is performed at the "flashing furnace," where, by a compound centrifugal and eccentric movement, the globe gradually expands into a round plane surface.

In the manufacture of sheet glass, which was originally introduced into this country by Mr. Hartley, and which is fully illustrated by various specimens exhibited on another table, the first part of the process is the same as that used for crown glass. In the second stage a piece of glass, as formed in a wooden block by the blower, is swung with great dexterity over an opening in the ground, similar to a saw-pit, giving it a cylindrical form, which is the third stage.

Only one furnace is used in making sheet glass, and this is simply required to warm, from time to time, the cylinder, which is swung from side to side alternately, until it arrives at the required size.

A small piece of glass is next attached to the end of the cylinder, which is again placed in the furnace: the rarification of the air causes it to burst at that extremity, when a boy cuts off the end with a large pair of scissors. The cylinder, still attached to the pipe, is placed on a wooden horse, and by drawing a piece of cold iron over the end near to the pipe, it is separated from the cylinder by a sharp blow. When the cylinder is cool, the blower, with a piece of hot glass, surrounds the end as it were with a cord, which cuts it off as if a diamond were used. The cylinder is now transferred to the kiln, to be flattened, slit up the centre, and afterwards placed in the flattening kiln, by which the sides fall down to a certain extent; and, by further exposure in the same kiln, the sheet becomes entirely flattened.

Fine specimens of sheet glass, 62 inches by 41 inches, containing each nearly 18 superficial feet, are exhibited. There are also various other objects of utility made of glass for the dairy, the garden, and for other purposes, as manufactured by Messrs. Hartley and Co.

TEBAY'S WATER METER.

Many plans for measuring the quantity of water supplied to the consumer by the water companies have, from time to time, been submitted to the Society of Arts, but, as yet, little has been done towards the introduction of the water meter by the great water companies of the metropolis, who are, however, fully alive to the advantages of such a mode of detecting the dishonest consumer. On the north side of the division appropriated to Machinery in Motion, we find a compact and exceedingly neat contrivance for this purpose, invented and patented by Mr. Tebay, consisting of three main parts: first, a registering apparatus for ascertaining the quantity of water flowing through the machine; second, a self-acting regulator to enable the instrument to suit itself to any pressure; and, third, a check-valve to prevent surreptitious use. The measuring or registering apparatus stands on a truncated column, and is furnished with a dial having a pointer to indicate the number of gallons and pints which have been drawn from the cistern in a given time: the inlet pipe passes through a horizontal flange, by which the machine is secured either to a table or shelf; the outlet pipe is connected to the back part of the registering apparatus.

This meter may be placed at any part of the water-pipe, and at any altitude, and in any part of the building. Its action is certain, easy, and effective; and, however suddenly the pressure may be increased, or the flow of water through it impeded, or altogether stopped, there is not the slightest concussion or reaction. Another great advantage worthy of being mentioned is, that it cannot be tampered with without detection.

There cannot be a more equitable mode of assessing water-rates than that by which each consumer pays for what he actually uses, and no more; while, without such adjunct, a very large quantity of water is frequently wasted, by which the company experience a considerable loss, while, on the other hand, those who do not require half the allowed supply are made to pay, as it were, a double rate.

TOBACCO.

If the present age were not by general consent most appropriately christened the iron age *par excellence*, it would assuredly receive the title of the age of smoke. As iron is the mineral, tobacco is the vegetable type of the days in which we live. But for tobacco, modern history must inevitably have been as different from what it is, as it would have been without the revolutionary inventions of gunpowder and printing. The importance of the effect of tobacco, and the gigantic extension of the consumption of alcoholic liquids, upon the physical and moral nature of man, is a theme worthy of the meditations of the most enlightened student of physiology, statistics, and philosophy. The use of this potent and mysterious drug has become all but universal. It has entered as an element of existence into the life of man, whether for good or evil many hesitate to decide. Perhaps the present Grand Exhibition, which, rightly regarded, offers not only a catalogue of the productions, but a record and a summary of the whole character of the nineteenth century, is no unfitting occasion for a passing consideration of so weighty a subject as the part which any particular article of general commerce and consumption plays in the great drama of history, of which we are, one and all, at once the actors, the spectators, and the recorders.

In this consideration it is of course necessary to lay aside all individual prejudice. What we have to deal with is a great fact. To those who neither smoke nor take snuff, the use of tobacco may naturally appear a very disagreeable, deleterious, and even absurd habit. Not being a necessity, it of course depends upon taste and opinion for its justification.

Like opium, betel, the *Cannabis indicus*, commonly known as hashish, and several other drugs well known in chemistry, tobacco is a narcotic stimulant. It is also an aperient, and in the form of a decoction, or extract, one of the strongest known to medicine. It is also a powerful emetic. But it is rarely applied by physicians, except in extreme cases, when it has often been found of extraordinary efficacy. Such being its properties, it is evident it cannot be greatly indulged in without materially affecting the nerves and the digestive organs. It is also evident that its abuse must lead to very serious results. Many persons, from excess of smoking, bring on dyspepsia, and an extreme irritability of the nerves, consequently of the brain, consequently of the whole system. The confessions of many smokers would rival the celebrated opium-eater's account of his terrible sufferings. But these are persons of delicate stomachs and sedentary pursuits. These, also, are the people who, generally from personal experience, condemn the use of tobacco and its poisonous qualities. Yet the navigator and the sailor (two classes whose names are one, and whose occupations are so opposed) chew and smoke to any extent with rare inconvenience. In fact, we are inclined to think that, to the labouring classes, tobacco may sometimes be a benefit and luxury. A life of healthy bodily exercise renders their nerves proof against the effects we have described it as producing on more susceptible organisations. Who ever has entered a country public-house in the evening, and observed the grave circle of steady old smokers that does not feel the pipes to form an essential part of the picture? What would Knickerbocker's "Dutchmen" be without pipes? Imagine that solemn circle of politicians all twiddling their thumbs, or sitting with their hands in their pockets! Besides, what a relief for a taciturn man to watch puff after puff of silver grey smoke ascend and vanish like a phantom raised by his conjuration. A pipe is a substitute for wit, for eloquence, for gesticulation; it is our excuse for silence, for slowness of repartee, and for gravity; above all, it is *something to do* with one's hands, one's eyes, and one's mouth. A stranger enters; he is modest; he takes a seat and smokes himself a veil. Nobody stares at him and he stares at nobody unpleasantly, because all have their pipes to look at, which, being clay, remind them that man is no better. But tobacco possesses one other remarkable virtue; it destroys insects; hence the fumigations of gardeners in hot-houses. Now, this virtue may be far more important than at first sight appears. Many modern physiologists attribute disease in the animal frame mainly to minute animalcules which pervade the air, the water, and indeed every conceivable medium. It is not, therefore, improbable that tobacco fulfils a great sanitary mission in the continual destruction of these minute and invisible foes of human health. That it possesses a soothing and pleasing power for the majority of its votaries, is undoubted. It is commonly charged with being an incentive to drink—it should rather be praised as a substitute. Not that we deny that tobacco will provoke thirst; but we are convinced that it more often replaces, by a comparatively harmless excitement, a more dangerous indulgence in wine and spirits. Whatever its merits or demerits, the pipe of the present age is lighted, and he must be a bold man who would attempt to put it out.

Tobacco is said to have been first imported to England in 1560, by Sir Francis Drake. Its native name in America was, on the continent, *petum*, in the islands, *yoli*. Its modern name is derived from Tobaco, a province of Yucatan, or, as some say, from the island of Tobago.

The French named it Nicotiana, from John Nicot, ambassador of Francis II. to the Portuguese Court, who brought back with him some specimens, which he presented to Catherine de Medicis.

It was cultivated in Britain before 1570, but the practice of smoking is said to have been regularly introduced by Sir Walter Raleigh in 1584. Though so hardy a plant, that it may be cultivated in almost any country, its propagation in Great Britain and some other European countries has been forbidden, for the purpose of taxing its importation. Adam Smith condemns the absurdity of such a system, which is virtually a great sacrifice made by this country for the benefit of the tobacco-growing states. Very good, if not superior, tobacco could be grown both in England and Ireland, at a great profit, even if subject to taxation. Those who deny this fact, contradict themselves by insisting on the necessity of prohibiting its culture. Many have thought that the cultivation of tobacco would go far to relieve the terrible distress of the Irish peasantry. As it is, American slave-owners reap the harvest of our blunders in commercial policy. Maryland and Virginia are the largest tobacco-growing states; but it is cultivated in Turkey, Egypt, India, China, and Asia generally, in Greece, in Italy, in Germany, France, and Belgium, and even in the southern provinces of Russia. The leaf of the tobacco plant is long and broad; some species are a foot and a half in length, and at the widest part a foot in breadth. A limited number of plants may be grown in each English garden, as a matter of botanical interest.

In the Great Exhibition of all Nations, America, as the parent, naturally claims the first attention amongst the exhibitors of tobacco or of apparatus connected with its use. We find in the department of the United States a collection of boxes filled with brown cakes, which a juvenile eye might mistake for gingerbread, but which an unsophisticated taste would reject with horror and disgust, if deluded into trying the experiment by a sly bite, in defiance of the eighth commandment and the notice, "Not to touch the goods," of the committee. But though a curious public has nearly eaten up the Indian corn exhibited in the same department, there is little fear of their attacking the tobacco, since it is, with the exception of a few rolls of leaves, mainly destined to be chewed—a mode of enjoying the fragrant weed hitherto chiefly confined to the nautical profession in this country. One box of these cakes rejoices in the fascinating title of "El Dorado," and is of a somewhat lighter colour than the rest. In hopes of getting some information, perhaps even encountering some American citizen practically acquainted with the relative chewing virtues of the, to us, Cæsar-like-Pompey squares of *Nicotiana*, we called at the office of the United States Commission, where a gentleman who answered our inquiries very politely proved, unluckily, not to be "posted up in tobacco," neither smoking nor chewing at all; whilst another gentleman we met was "booked up" in coffee, cotton, and every other mortal production, with the solitary exception of tobacco. So, as time was valuable, we set off for Spain at once. Here, snuff is offered to the public gratis. Now, the British public specially enjoys anything it does not have to pay for—the very rarity of the thing gives piquancy to it—and there the public was, looking red in the face, and sneezing immensely. Having taken a moderate pinch ourselves from one of the casks so hospitably open, we sneezed three times to the health of Spain, and proceeded to examine the cigars exhibited by Messrs. Gomez and Gonzalez, which certainly, for make and aroma, seemed all that a smoker could desire. From the Phillipine Islands are specimens of the various cigars and cigarettes manufactured in the central factory of Manilla, whilst M. Fernandez exhibits specimens of paper cigarettes, by which emancipated ladies might be excused for being tempted. However, tobacco, raw or manufactured, is a thing of which little can be learnt by looking at it, and we crossed over to Turkey without further delay. Here, the luxury of smoking begins to dawn upon us, in the shape of amber mouth-pieces, magnificent chibouques, long cherry tubes, and the quaint red clay Turkish bowls, which rest so comfortably on the ground, whilst the smoker puffs at his ease, free from all that heat and sharpness of taste which the ordinary English pipe, and even the cigar, must always more or less possess. Truly, your Oriental is the smoker of smokers. His tobacco is milder, it is not subjected to any of the diabolical processes to which the stuff we buy at our tobacconists is condemned. He smokes the real leaf, which he buys unbroken as it comes from the tree. His pipe is long enough to cool, and large enough to admit freely the smoke he inhales, and he smokes calmly, seated in his divan, and as he smokes he meditates. What smoking, compared to our hasty whiffs as we walk along, and bitter enjoyment of home-made Havannahs and oft-damped tobacco!

Alas! it is a melancholy confession to make, the English as a nation smoke the worst tobacco and use the worst pipes of any nation in the world. Perhaps this is a good sign, the English have never taken to smoking as a serious occupation. They have not yet smoked themselves into dreaming when they ought to act, like the Germans. For it is a fact worthy of note, that it is only since the introduction of tobacco that the Germans have become remarkable for their speculative and theoretic character. *Formerly* they were a purely practical race, much given to beer and fighting, but innocent of philosophy. *Now*, a German always thinks so long before he acts, that he often forgets to act at all; and though he knows perfectly well what he wants to do, by dint of contemplating the intended deed he loses all interest in doing it.

A very fine specimen of Egyptian tobacco is also exhibited in the Turkish department, which we quitted for the Austrian, where by far the most splendid display of smoking apparatus is to be found. This consists of bowls, tubes, and mouth-pieces, the names of the exhibitors of which we must in justice more particularly allude to. M. Edouard Sievert, of Vienna, exhibits cigar tubes of amber and meerschaum on which are carved dogs' heads, horses, grotesque figures, &c. M. Samuel Alba displays meerschaum pipes of great beauty and variety. M. Josef Wozteeb, tubes of very graceful make. M. Gerhard Höge, magnificent amber mouth-pieces for pipes, and cigar tubes of amber and meerschaum; also splendid pipe-sticks, of ivory, ebony, mother-o'-pearl, combined with amber mouth-pieces; also meerschaum bowls of various shapes, carved and plain. M. Josef Zeitler, the same. M. Jos. Hubner exhibits china pipe-bowls; but we have seen far finer collections in Germany. Nevertheless, there were some very delicate paintings amongst them. They are accompanied by flat specimens of painting on china. M. Leopold Najel, of Vienna, has some very beautiful pipe tubes of ebony and mother-o'-pearl, and cigar tubes of ivory and amber. The specimens of amber in this department generally are very fine, and many of the tubes and mouth-pieces might induce even a non-smoker to purchase them for the sake of the beauty of the material and workmanship. M. Nagel exhibits a gigantic cigar holder, intended, of course, for a show piece, of amber and carved meerschaum. Three gigantic meerschaum pipe-bowls are likewise exhibited under a glass case. MM. Ludwig Hartman and Philip Beisiegel also exhibit a splendid array of tubes, sticks, bowls, &c.; and indeed it is very difficult to say who deserves the palm among these Viennese exhibitors of amber and meerschaum, two of the most beautiful substances in nature, and which we should like to see extended in their application to many ornamental manufactures.

Cruising about in pursuit of further illustration of our subject, we lighted on some very pretty turned ivory and wooden snuff-boxes, by Mr. Garrett, of Ipswich, which are deserving of notice; and in the South-East Gallery we lighted on a stand of clay pipes, by M. Fiolet, of St. Omer, who won the silver medal for that article at Paris, in 1844. These pipes are remarkable for the straightness and neatness of their make. C. Dumeril, Leurs, and Co., also of St. Omer, exhibit on the other side of the same stand pipes of a like make; but they also show some pipes of red and black clay, very tastefully modelled, and some in imitation of bronze, of the same material.

In conclusion, we strongly recommend all amateurs of smoking to visit the Austrian department of the Exhibition, as we are convinced that the use of such tubes and pipes as there exhibited is to be preferred either to the cigars or pipes of our native land. If we must smoke, let us smoke in good style. There must be something in the way the thing is done, for we never saw an Englishman enjoy smoking like a German or a Turk. The former, indeed, yield little to the latter in their devotion to the weed. In Berlin and Vienna the window-sills are provided with cushions on which to rest the arms whilst looking out of window and smoking in summer. We recollect being much amused at Berlin by the spectacle of so many heads, in all sorts of caps, protruded from the windows of the house we lodged at. There were heads and pipes sticking out from every story and from every house in the street, and we had a fine opportunity of becoming acquainted with the physiognomies of our neighbours. Who ever heard of an Englishman systematically lounging out of window and smoking? In Berlin it is a recognised part of the day's business of a Prussian gentleman.

MR. SHIELDS' MODELS OF BRIDGES, &c., FROM NEW SOUTH WALES.

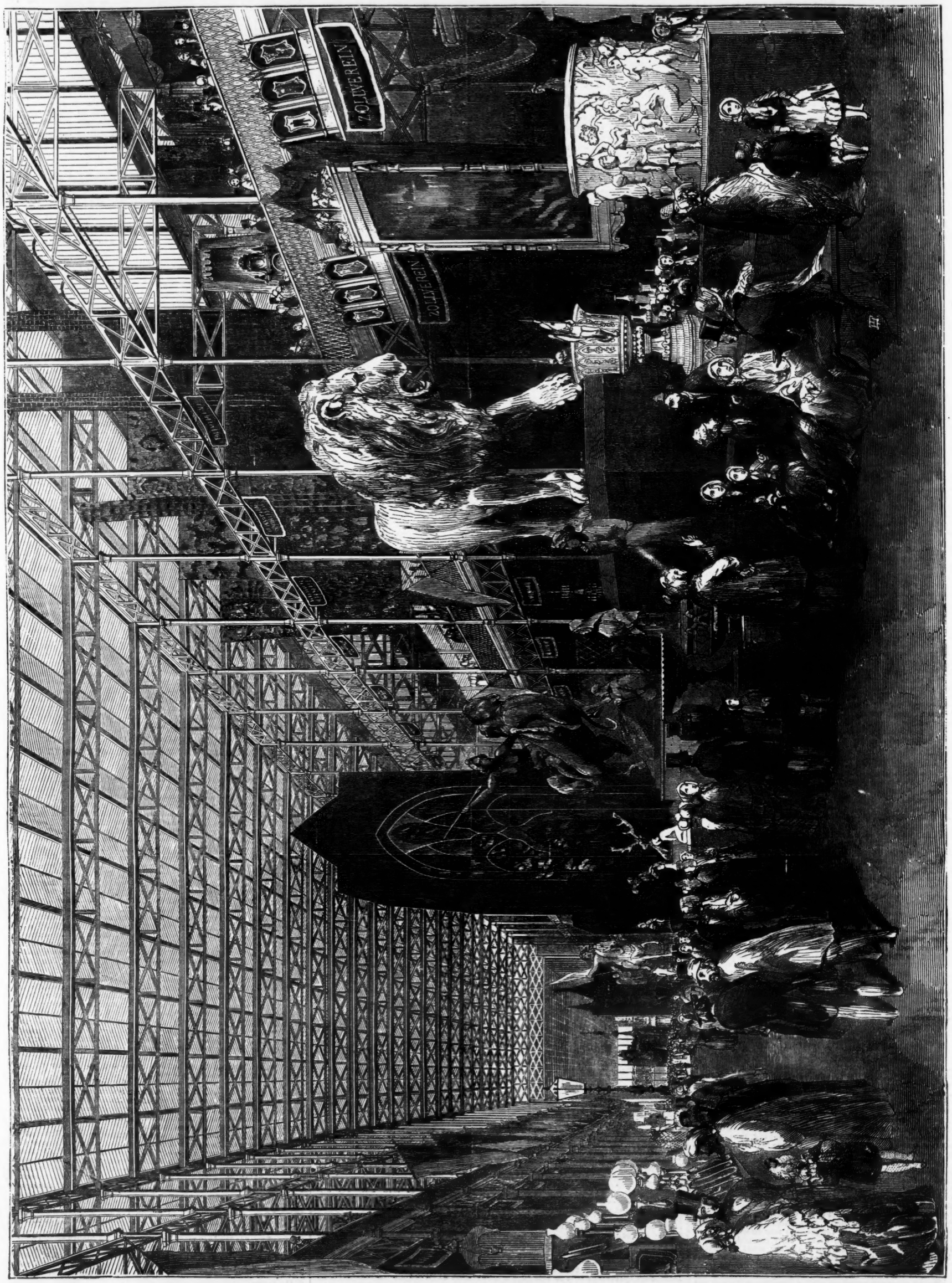
In most of our colonial possessions, the civil engineer has hitherto had but little scope for the exercise of his talents and ingenuity. The railways of New South Wales have, however, afforded him an opportunity of displaying his skill in the best application of the materials which are found at hand; and it is this circumstance which has induced Mr. Shields to exhibit, in the Colonial department of the Great Exhibition, various models of bridges and other engineering contrivances especially suitable for New South Wales. The cost of iron-work, of all descriptions, in that country is very considerable, as compared with the English prices: the engineer has, therefore, to economise to the utmost extent the use of this valuable material, and in cases where practicable to dispense with it altogether. Mr. Shield's model of a "lattice bridge," and also that of a "railway trestle frame," are of the latter character, and are, therefore, peculiarly deserving of consideration, as being equally suitable for many other parts of the world. Take, for instance, New Zealand, which abounds with valuable timber, suitable for bridges and similar works. The American engineers have long paid considerable attention to the best disposition of timbers in the construction of their bridges and extensive railway viaducts; and these have been followed, to some extent, both in the railways of England and Ireland. We believe the first wooden lattice bridges in England to have been erected under the direction of Captain Moorsom, on the line of the Birmingham and Gloucester Railway.

The peculiarity of Mr. Shields' lattice bridge is the use of round timber, thus getting rid of much expense in the shape of labour, and also in the entire absence of iron fastenings. The model consists of three lines of vertical round timbers, properly notched, and having two perforations to receive the horizontal timbers, similar to the mortices of posts for fencing. Between each pair of vertical timbers are two diagonal pieces resting at bottom on cross timbers, and framed into the vertical timbers at top. There are three double sets of horizontal timbers, the upper ones supporting the joists placed transversely and to which the floor boards are secured. These joists project on either side of the bridge in order to gain additional width of road-way; a wooden railing, properly stratted, completing the whole.

The "Railway Trestle Frame" is intended specially as a substitute for embankments, in countries where labour is dear and timber plentiful. The framing is similar to that of the lattice bridge already described; and although, as Mr. Shields very properly acknowledges, the system has been much adopted in America, yet the design is original as regards the arrangement of the framework.

A third model exhibited by the same gentleman in the New South Wales division of the Colonial Department, and which division is situated at the south west angle of the same, shows Mr. Shields' method of laying the rails in New South Wales, with an especial view to economy in the use of iron. This model is the section of a longitudinal timber, with the iron forming the rail, attached to it by counter-sunk bolts with dovetailed heads and screw-nuts, and resting on felt throughout: the transverse section of the timber is seven inches and a half deep and five inches and a quarter wide, with a sinking left on the inner top edge of two inches in width to receive the flat iron plate, which is slightly rounded on the top, being five-eighths of an inch thick at the sides, and seven-sixteenths of an inch in the middle.

Due allowance has been made for expansion from change of temperature. The general outline of Mr. Shields' economical plan of laying rails is the same as that which has been adopted in the north of England, and to a very great extent in America, but the peculiar mode of placing the rails, and securing them to the timbers, are the novel parts of the design.



THE ZOLLVEREIN DEPARTMENT.—LOOKING WEST.

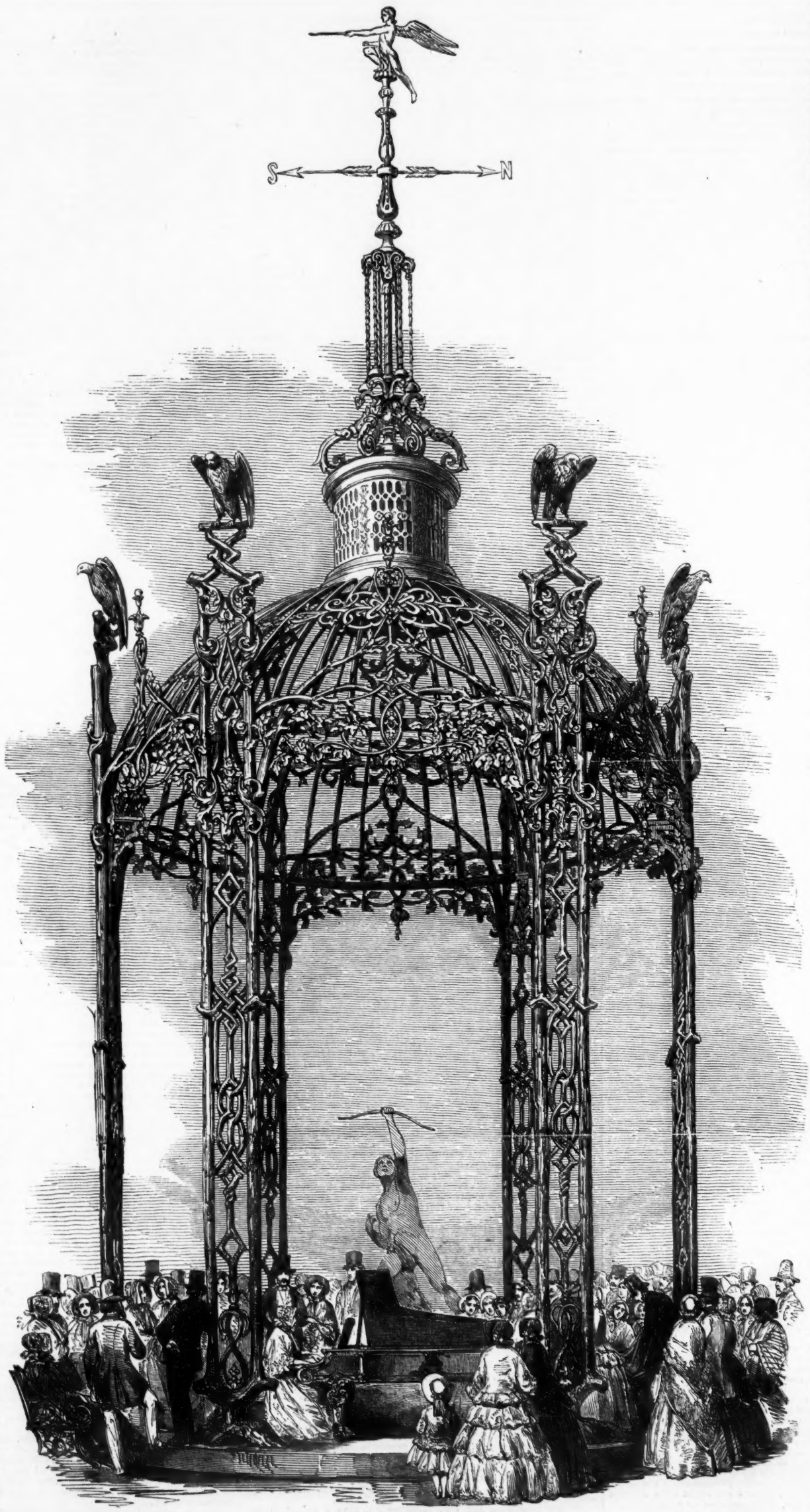
THE ZOLLVEREIN DEPARTMENT.

The Engraving on the preceding page gives a comprehensive view of that portion of the East Nave (looking west) appropriated to the Zollverein Department, the courts of which branch off right and left. The large tent-like object bounding the foreground is the tent containing the famous Dante window from Milan; the equestrian statue to the rear is the colossal Godfrey de Bouillon; and in the foreground are the Amazon, by Kiss, of Berlin, and the Bavarian Lion, which we have engraved and fully described in former Numbers. Around are various objects of Sculpture, which have been very liberally contributed by the States belonging to the Zollverein.

MAUDSLAYS' COINING PRESS.

The coining press is worked by a double cylinder direct-acting high pressure engine, on the shaft of which is a metallic pulley of 36 inches, and a fly-wheel of 72 inches diameter respectively. The cylinders are each of 5 inches diameter, and the length of the stroke 16 inches. From the pulley of the engine a strong double leather strap passes to a drum of 56 inches diameter on the main shaft of the press, by which motion is given to the cross-head and other parts of the machine: the drum is attached to the engine fly-wheel, of 64 inches diameter.

In coining presses, as ordinarily used, either a screw or lever is employed to give motion to that part of the machine by which the necessary impressions are given to the metallic *blank*; but in the present instance this motion is obtained by means of an eccentric, by which a pressure is brought into action of 140 tons: the cross-head worked by the eccentric, which is concealed from view, has an alternate vertical motion of three-quarters of an inch. Underneath and attached to the cross-head are two collars, the lower one of which contains the upper die, while the lower die is contained in a collar, which is kept up by three radially placed springs pressing thereon, and forms the temporary resting-place for the blank undergoing the process of stamping. At proper intervals the collar is pressed down by two small levers or arms, having an alternate motion. The blanks, twenty-eight in number, each of nearly one-eighth of an inch in thickness, are placed in a circular brass hopper, from an opening in the bottom of which they are successively transferred to the lower die by means of a split curved arm, or tongs of ingenious construction, having two fingers at the end, by which the blank is held during its transference from the hopper to the lower die, when the curved arm is opened so as to release the die: the distance between the centre of the hopper and the centre of the die is five inches. The opening and shutting of the split-arm or tongs is effected by a vertical pin moving in a short slot formed in the stem of the curved delivery arm; the pin is attached to the end of a second horizontal arm or lever, which is worked by a vertical spindle in connexion with an elliptical cam towards the top and front of the press. In case of a blank being larger than that of the required gauge, a safety spring is attached to the second horizontal arm already mentioned, having its centre of motion on the vertical spindle, by which the error is detected without doing any injury to the machinery. By this press 60 double impressions are thrown off in a minute.



THE IRON DOME EXHIBITED BY THE COALBROOKDALE COMPANY.—GROUP LISTENING TO ONE OF MESSRS. COLLARD'S PIANOFORTES.

ORNAMENTAL IRONWORK DOME. BY THE COALBROOKDALE COMPANY.

One of the most pretentious works in the Building in this fantastic and withal remarkably pretty inutility. The casting supports the reputation of the founders: but there are many and grave objections to the design, which is not so happy; the upper part is less relieved than the lower, which least required spirit, and the cupola and vane are very bad. In the midst is a cast of J. Bell's "Eagle Slayer." The eagle transfixed by an arrow at the top inside must be considered an absolutely inexcusable piece of bad taste.

The pianofortes in the Crystal Palace, more particularly the instruments placed in the Nave, continue to form one of the most attractive features of the Exhibition; and with their brilliant and more costly rivals, the diamonds, fairly divide the admiration of the fairer portion of the visitors. On the more fashionable days, crowds of aristocratic and attentive listeners may be found lingering around and within the cast-iron dome of the Coalbrookdale Company, listening to the tones of Collard's splendid grand pianoforte, which has here found a resting-place, the tasteful decorations of the instrument—in the style of Louis XV.—richly carved and gilt, the beautiful figure of the mottled oak of which the case is formed, contrasting strangely but most effectively with the more sober hues of the bronze castings of the dome.

On the occasion of our visit we had the pleasure of listening to the performance of Madame Launitz Tipping, a lady with whose name the musical public should be more generally acquainted. M. Székely (a Hungarian pianist of great talent) also exhibited his powers on the same instrument. These pianoforte performances form a most agreeable interlude; for while they invite the weary to take a brief repose from their fatigues, they, at the same time, afford them a rich and unexpected treat.

GLASS WARE. BY POWELL.

The Engraving at page 196 illustrates some of the specimens of glass ware manufactured by James Powell and Sons, of the Whitefriars Glass Works, London; viz. a large glass stand, with four gas burners, suitable for a pedestal, designed by Mr. Archibald Cole; also, parts of a dessert service, designed by the same gentleman. Some of these articles are made of the American sand from Wenham Lake district, remarkable for its transparent brilliancy. At the same stall is a specimen vase of yellow glass, produced by the oxide of uranium, first applied by Messrs. Powell to the colouring of glass many years ago, at which period it was sold as high as a guinea per ounce; but, from its having been brought since that time into general use, may now be purchased at a much less price per pound. Patent joints for glass tubing, applicable for conveyance of water, telegraph wires, &c., are also exhibited by the same manufacturers.

"SUSPENSION." BY VOISINLIEU.

This is a pretty basket-shaped production in hard earthenware, for the reception of flowers and candles, which affords the means of decorating and lighting a room at a comparatively trifling cost.

FURNITURE. BY CLARK.

Our Engraving (at page 196) represents two very rich and ambitious articles of furniture, by Clark, of Dean-street. The ebony centre-table is supported by a pillar composed of a group of three eagles in or moulu, highly chased, surrounded by oak leaves and acorns. The top is surrounded by a rich or moulu moulding, and is divided into six compartments by branches in the same material extending from the centre to the circumference. This, ornamental as it is, is the only point which we object to in this table, destroying, as it does, its evenness of surface. The intervals between the branches are inlaid with buhl, highly ornamented. The work-table, which is in English walnut-tree wood, is supported upon elaborately-carved foliage standards, the top being inlaid with marquetrie, on the upper and under surface. Altogether, this is an undeniably elegant piece of workmanship.

BEDSTEADS.

"IT no more follows," says a learned essayist, "that because the word 'bed' is pure Saxon, its origin is derivable from our ancestors sleeping on sacks, than that a man was necessarily indebted for his lodging who slept upon *tick*." It is strange that so little has been written upon beds. Can it be so drowsy a subject, that, as soon as we are led to incline our minds thereon, the god Somnus claims us as his own? Surely that which contributes to so much of our enjoyment, in many instances to the employment of one half of our lives, has sufficient of interest to claim the attention of the learned. If so, perhaps the history of beds should be traced back to Adam, for whom Mother Earth made one upon her bosom, giving him a springy mattress of sweet-scented herbs pillowing his head amidst the pendent and sleep-inviting poppy. But should we have the courage to go thus far back, we should be compelled to do justice to all intervening times and nations, which would detain us from our duties much too long ere we arrived at the beds to be found ready made in the Crystal Palace. Nor could we, without a wide discursive text and elaborate graphic delineations, give anything like a notion of the various forms given to the bed or the materials of which its appurtenances have been composed. It may, however, suffice to state, that there has been but little change in the shape of bedsteads, or material for beds, since the time of bed-making by the pioneers of civilisation, the Egyptians and the Assyrians, the Phœnicians and the Persians. Indeed, in this respect it has been matter of surprise how little change has been introduced during so great alapse of time, beds and bedding being at the present day almost identical with the periods referred to.

A late writer, while glancing at this subject, remarks, "that climate is the great arbiter of custom with all, and that those inhabiting the same latitude exhibit a general similarity in their method of repose." The habits of our early British forefathers differed little from those of most uncivilised nations; and in this state they appear to have remained until the conquest by the Romans, whose policy it always was to introduce their own manners and customs into the countries overrun by their victorious arms, and accordingly during their occupation of Britain the customs became assimilated to those of Rome. On their retirement, the people suffered a relapse, and civilisation remained at a low ebb until the establishment of the Anglo-Saxons once more introduced a comparative degree of refinement into their modes of life.

We find payment ordered for taffeta, fustian, and silk for the King's bed, in a document in the reign of King John, and in another of the same period linen sheets are mentioned. The wills of the Monarchs, and the principal nobility in the fourteenth century likewise give us a hint as to the truly sumptuous character of the bed-hangings of the period, when satin, velvet, and embroidery of gold and silver appear to have been profusely employed; and up to and during James the First's time the fittings of the bed-chamber appear to have been of the same rich and florid description. In a warrant to the Great Wardrobe, issued in 1613, is a long list of articles of furniture. Among other items occurs, "For embroidering the several parts of a sparver (canopy) bed of crimson velvet;" and in others the bed is enumerated—"bed, bolster, and pillows of Milan fustian, filled with down; quilts of fustian, filled with wool and cased with taffeta; two pair of blankets of Milan fustian; two pair of fine Spanish blankets; two counterpoints of plush," &c. During the Commonwealth, the supremacy of the Puritans imparted a more formal character to the domestic furniture of the time, and, at the Restoration, the luxury and extravagance of the Court were imitated by the nation. During the succeeding reigns domestic comforts appear to have been more uniformly diffused among the general body of the people, and beds and their appurtenances followed the changing fashions of the times.

The bedsteads, beds, and bedding in the Crystal Palace are exceedingly varied. There are some of a most formidable description, perfect billows of down, into which a man might plunge, disappear, and be loth to rise again. While some, of aristocratic pretensions, present formidable obstacles to occupation from their height; others are almost as low as the *down* (on the ground) bed of the poor. Here we have a bed, hard and unyielding to the touch. There is one provided with springs, from which, if you go in with a jump, you will turn a somersault and come out with a bump. Now we have one sufficiently wide to hold a large family, like that of Ware, and now a quantity of narrow strips of bachelor-like bedsteads, marshalled rank and file, reminding us of the well-known reply of the Duke of Wellington to an officer who remarked upon the scantiness of his Grace's couch, that there was not room enough to turn in it, "When you think of turning in bed, sir, it is time to turn out." Again, there are beds that turn up, fold up; and, moreover, almost every kind of chair-bed, sofa-bed, pianoforte-bed, library-bed, and in one case a clock-bed. From the whole of these we purpose selecting only those which present any feature of decided novelty, either of form or material.

We give precedence, with all due respect, to those beds and bedsteads which have for their object the amelioration of the sufferings of frail humanity. Of these there are several, each and all bearing manifest evidences that a high and ennobling philanthropic feeling has had more to do with a successful result, than the mere desire for worldly lucre and aggrandisement. Dr. Ridge, of Putney (No. 8, Class 26), exhibits an invalid bed for spinal and other complaints, which is simple in its construction, and appears to us admirably adapted to its object. We are apt to forget, in the bloom of health, whilst traversing acres of human necessities and luxuries, as set forth in the Crystal Palace, that sickness or helplessness can assail us. There are many, however, who cannot dismiss these things; they are painfully reminded of them by a suffering relative whom they have perhaps left for only a few hasty hours' relief from long and anxious vigils by his couch. Upholsterers have done their duty in the providing easy couches, chairs, beds, sofas, &c., and with only one idea, that the sufferer who uses them is never to be off them; they seem provided for him to live on. But who that has been ill and helpless, does not know the luxury of being moved from even the easiest couch? From the medical profession, therefore, a noble invention has sprung; and we have great pleasure in urgently calling the attention of the invalid of every grade, the benevolent medical societies, and, moreover, the governors of our hospitals, to this philanthropic invention, which is suitable for any bed in any room. Only a small model is exhibited; but, as we have personally seen it in active use at Guy's Hospital, we may safely append a description. An iron framework, divided into three by hinges, over which is strained a double ticking, is placed on the invalid's bed. The patient, once laid thereon, need not be taken off, for a beautiful, and even elegant contrivance is brought to his bedside: a projecting leg runs under the bed, and an overhanging cradle, with four pendant rings, is brought over the centre compartment of the frame, the four corners of which are to be attached to the cradle; a handle is turned, and the sufferer raised up, without being conscious of the movement. The upper and lower portions of the frame are attached by small ropes to the top of the cradle, and, when raised sufficiently high to clear the bed, the carriage is moved away with its occupant in a suspending couch—easier than all the water-beds, air-beds, cushions, &c., the Macintosh covering of which is the great alloy to all their comfortable qualifications, not only from leakage, trouble of filling with air, and water, but the offensive smell which ever accompanies the caoutchouc. All these are here avoided, and, in fact, are unnecessary. When the sufferer is removed, the upper third of the frame can be raised at his back, the lower third depressed to let the legs fall, and thus are all the comforts of a chair provided for him while he still remains upon it. In fact, the apparatus can be placed at various angles to suit any position required or wished. When the patient is tired of this, he can be conveyed to bed again, and the bed carriage taken away. Thus it presents the curious anomaly of a person being taken from his bed, yet never off it. All honour to the noble profession from which this boon emanates. The helpless and the bedridden will derive their advantage from the Exhibition. The luxuries of the healthy have been amply cared for. In this admirable contrivance, mechanical gifts of no ordinary description have been guided by the sensitive professional knowledge of the requirements of the sufferer in the prostration of sickness or the throes of death. Had such a contrivance existed when Sir Robert Peel met with his accident, it is not unreasonable to infer, from the peculiarities of the bodily injury and his physical temperament, that its aid might have afforded facilities to the surgeons around him, to the rescue of his valuable life.

Mr. J. E. Townshend, of Camberwell (No. 8 in the same class) has likewise several bedsteads for invalids, which demand honourable mention. There are, moreover, many others which call imperatively for remark, did space permit of it, as they aim at the one grand purpose in the most praiseworthy way. Dr. Arnott's hydrostatic bed, of which, like all other of the Doctor's important inventions, he has made a present to the nation, is now so well known, that it is scarcely necessary to state that it consists of a trough containing water, and covered with a cloth coated with India-rubber. Upon this the mattress is placed; and it is at once easy to imagine the freedom from any undue pressure upon any one part of the body which this simple adaptation ensures. Indeed, it fulfils the duties of a nurse to some extent, assisting by its kindly yielding to each movement of the sufferer any change of position he may in his restlessness desire to assume. It was an admirable step in the right direction; but it possesses the objection of which we have above alluded to while speaking of india-rubber water beds. It is strange that even this invention had something of its parallel in the East. We refer to Mr. Lane's English version of the "Thousand and One Nights," where a bed resting upon quicksilver, and designed for an invalid Egyptian Governor, is fully described.

There are four or five state bedsteads to be found here and there throughout the Building. Messrs. Faudell and Phillips (No. 165, Class 2), of Newgate-street, as the work of the needle, and the one in the Austrian department, as the production of the carver's art, claim an early notice. There can be little diversity of opinion, that the former, concentrating as it does almost every known decorative stitch, is thus considered the very finest specimen of its class which has ever been seen in ancient or modern time. To be critical, however, we would at once remove the plumes of feathers from the corners of the canopy. It is true there are plenty of authorities for their use, but in all cases they but serve to give a funereal character to a bed, which ought alone to be met with where it is wholly designed for the state exhibition of regal decease. Our lady readers will doubtless require of us a most minute description of this bed. In viewing it from the foot, the nearest subject is the celebrated painting of "Aurora," copied from the picture of Guido Reni, in the Rospiglioso Palace at Rome. This is a magnificent piece of needlework, very correct in its drawing, and most happy in its approach both in colour and detail to its glorious original. There exists one error, however, but apparently trivial to the casual observer, but to the artistic effect of the whole positively injurious: the eyes of the various figures have been worked in with too dark a colour, a fault often to be found in the paintings of students, who do not allow for the softening influence of aërial perspective, or the equally blending effect of the eyelash. But when it is considered that this foot-board has been worked on canvass direct from the picture, without any portion being made into a Berlin pattern, set in a square design, or any other mechanical contrivance for simplifying or facilitating canvass work, those who know the difficulties of such a course will perhaps make every allowance; yet, if there existed any other and more certain way of gaining the same or a greater amount of perfection, we do not see why the more difficult one should be chosen merely for the sake of the implied obstacles by which it was surrounded. It is in the "tenth stich" on fine canvass. All the wool, which is four-thread, has been split, and to obtain many of the tints it has been found necessary to twist two single threads of different colours into one; nevertheless, 700 different shades have been used. In this piece alone there are one million six hundred thousand stitches! We would, ere dismissing this portion of the bed, call particular attention to the exquisite manner in which the blue draped figure, with her back turned to the spectator, has been rendered—Zephyr appears to have taken possession of every fold of the floating robe. The tester, or head-piece, is worked in cross-stitch, Gobelin stitch, and raised stitch, with wool (the latter being afterwards sheared), silk, twist, and chenille. The centre is "Thorwaldsen's Night," and is remarkable as being the first attempt of the kind to represent statuary in needlework. This is somewhat successful. It would have been more so, had the fingers that plied the needle known more of the nature of colour, shade, and reflected light identical with plaster or marble. The bas-relief is suspended from a wreath of flowers, selected from all nations, tied together by laurels, palm, and myrtle, emblematical of peace. The fruits and bread-stuffs of the world united are in raised work at the side, and very skilfully copied from Raffaelle's ornaments in the loggie of the Vatican, but grouped so as to be appropriate with the present subject. The scroll is in harmony with the character of the bedstead, and into the whole of the design there are fifty-one different flowers, fruits, and products introduced. The upper valances, or hangings, are worked on canvass entirely in chenille silk, manufactured in Spitalfields expressly for the work, which represent on a flat surface the folds of velvet draperies supported by cords and a garland of poppies (*Papavera grandiflora*) of Asia, emblematic of sleep The ceiling and cornices are cross-stitch, wool and chenille, the angels watching and holding wreaths of roses over the sleepers. The curtains are of white watered Irish poplin, with blue satin stripes worked in silk crochet twist, made on purpose, and the design is so arranged as not to show any join, and each curtain is 12 feet by 9. The counterpane is a junction of all the parts; the material of the top the same as the curtains; the embroidery, known as "passing," while the flowers are "beaded," and worked with chenille. All the materials are of British manufacture, and the style of the bedstead "Louis Quartorze." The needlework, only occupied thirty English females ten months, and the whole may certainly vie with any similar work, large or small, in this or any other country. The greatest credit is due to the Messrs. Faudell and Phillips, who have thus placed themselves in the first rank in their pursuit, while the cabinet-work reflects no small amount of praise upon Messrs. Jackson and Graham, its manufacturers.

The state bed in the Austrian court (No. 633), is of an exactly opposite description, wood, and nearly wood alone, being relied upon as the material for utility and display. We allow that the *tout ensemble* of such works must not be looked at with too severe an eye. They are merely conventional forms chosen to carry a certain description and a given quantity of work. Of this work it is our province to speak. The foot-board is a splendid piece of carving, supported by posts with beautiful forms obtained by slight relief and the boldest undercutting. This foot-board is carried up very high, and gives to the bed itself an effect of awe and mystery not unlike that attendant upon the influence of a sumptuously carved screen in a cathedral. The head-posts are less fortunate in character. They are abrupt and eccentric in parts; and the designer has evidently been impressed with this conviction, having here and there introduced a meretricious ornament, with the sole excuse that space afforded the pretext, whereas greater repose would have been ensured without them; albeit the design would still possess the incongruity alluded to. The head-piece, admirable in workmanship, is likewise unnecessarily crowded, and the introduction of two circular enamels *in colours* is greatly out of harmony, although obviously intended to relieve the general monotony of the brown hue of the wood, but which, however, they serve to recal and impress by their contrast. It is certainly, as a specimen of carving, a production of unquestionable excellence.

No. 101 is a model of a British state bed, with canopy in the Elizabethan style. It is contributed by Mr. Scrymgeour, of Edinburgh. Such efforts as this have the most direct and useful tendency, inasmuch as they permit of the wholesome exercise of contrast and the instructive opportunity of practically pointing out to the designer what to avoid. There exists not one single portion of this affair that we can in justice exempt from the strongest disapproval. It is vile in taste, and puerile in design. The maker of a doll's bedstead would repudiate its offspring. The lion and unicorn standing on their hind legs, and hugging or dodging each other around the bedposts, are the best part about it, for they provoke a scream of laughter, although their smooth and naked, not to say flayed appearance suggests that they would be more appropriately caught napping in the bed than where they are. The posts and roof of the bed are made to extend, for what object is not explained; the bed itself we should have considered more entitled to this shift, while tubes run up each post, and terminate at the centre of the roof to ensure ventilation, although where it is to go to or from is not clearly observable. Its draped decoration is in similar character to the rest of the design, and if it were accidentally thrown over a clothes-horse would provoke a nightmare.

No. 165, Mr. Cumming, of Edinburgh, is a flat spring bottom for a bedstead, which appears to us to possess claims of novelty and good workmanship.

No. 168, T. Fox, Bishopsgate, is a bedstead of walnut-tree, gilt, with lofty canopy and drapery of blue silk. This is a fine palatial bedstead. The blue hangings in the decoration is the best part of it.

No. 162. Trollope and Sons, Parliament-street.—A bedstead conceived in a most elegant and refined taste. It is of satin-wood, with turned pillars. The inlaying of the groups of flowers in marquetrie at the foot-board must elicit the most decided commendation. Each flower is at once recognisable, and is botanically and artistically drawn, while the wreaths are disposed with charming lightness. It is assuredly a most beautiful bedstead, the posts perhaps a *leetle* too much turned away, and their capitals scarcely in accordance with the rest.

No. 404. Dowbiggin and Co., Mount-street, have a walnut carved bedstead and cornice, the design of which is well drawn and considered, while an uninterrupted harmony of parts gives a massive quietude to that which would otherwise be heavy.

No. 174, Smee and Son, Finsbury-pavement.—A bedstead, with light green temporary hangings, exceedingly neat and elegant. We doubt, however, the foot-board, which, while we admit it ensures a greater amount of security to the feet from the padding applied to it, we do not see the use of bringing the said padding in a scroll over the top. The same firm exhibit another in dark walnut, which has great breadth of design, but has sharp ornaments at the foot-board. Now, these same sharp ornaments to the foot-boards and sides of beds imperatively call for a remark or two in the shape of a decided protest against "a custom more honoured in the breach than in the observance." In the first place, how many a shin wound is traceable to the knife-like edge, one and all of the bedstead-makers delight in giving to the sides of their bedsteads, while hip and thigh come in for their share from the formidable array of one-hundred bladed posts which "look so pretty," and feel so sharp. If, while with cramp-inducing energy, we struggle with the clammy clutch of a tight and soddened boot, we unwittingly lean for extra purchase against the foot-board of a bedstead thus decorated, we run the risk of severing, or materially injuring our spine, to the detriment at least of a night's rest, not to say aught of the fact, that a hair-breadth at fault in the endeavour to find our "form" in the night would be attended with imminent danger to life and limb.

No. 194. Wakeling and Sons, of Gerard-street.—Carved Arabian bedstead, in white and gold. The foot-board represents scroll within scroll: but these scrolls are misplaced; the heaviest scroll being the second from the centre, and overlaid with a third, less massive, while the edging or frame-work which supports the whole is impoverished, and too narrow. The drawings in colours at head and foot in oil are tawdry. There is no greater trial for the master-mind, or the development of the ability of the artisan, than this style of white and gold. In its essence, it is purity itself; but the slightest alloy of bad taste drags it down below criticism, and beneath contempt. The drapery of this bedstead is a singular exception to the bedstead itself. It is very quiet in effect. Its forms are well proportioned, and the ornamental part—that of the braid—exceedingly pretty. But here again is a proof of some meddling ungifted hand—the tassels being in direct violation of its otherwise excellent taste. The side scroll must be likewise exempted from the charge of unmeaning composition.

169. Durley and Co., Oxford-street.—A canopy bedstead of walnut-tree, in the Elizabethan style, with furniture of rich English brocatelle. There is a great deal of good—nay, excellent workmanship—in this bedstead, but a more than ordinary quantity of those Elizabethan *chevaux de frise*, which might serve to protect the sacred bed of virgin Royalty—and, by the by, this may account for the great objection Queen Elizabeth had to going to bed—but nowise excusably employed in formidable array against the legitimate occupant of the couch it guards.

225. Cawley and Brompton.—A novelty in bedsteads, from having but three posts; but this novelty is far from an improvement. The bed is, however, near the ground, which we think a recommendation and a feature too much neglected.

There are two iron bedsteads in the North-East Gallery from Messrs. Heal and Son, of Tottenham-court Road, the posts, &c. of which are excellent specimens of japaning, while the height and size of both are in good proportion. The one is portable for military officers, the other for a similar purpose, but especially adapted to the East and West Indies, having mosquito curtains and other additions for comfort and security. There is a quilt on the one filled with eider-down, which, although well known to travellers in many parts of Europe, has only recently been introduced into Britain by this firm. The application of white Jacquard net for summer curtains is decidedly new, and, as it is well known that flies will not go through the meshes or apertures of a net, so may these curtains be adopted to rid us of those disturbers of our rest without increasing the warmth of our bed to any appreciable extent. Messrs. Tyler and Pace, in Class 22, have several cot, tent, and tester iron bedsteads, which display good workmanship.

373. Winfield, of Birmingham, has likewise many iron bedsteads which are highly creditable to one of, if not *the*, largest and most respectable firms in this useful department of trade. Their grand bedstead is in the North-West Gallery. It is in or moulu and is admirably balanced, chastely designed, and excellently finished. The posts are fluted, and carry the eye upwards with a pleasing assurance that a correct knowledge of the attributes of a refined taste presided over its construction. The figures (Cupids) which support these posts are carefully modelled, and are clearly from the *atelier* of a proficient in sculpture. The one at the centre of the foot-board representing Silence is not so happy, nature and rotundity having been sacrificed for an insipid and vulgar flatness. The green of the hangings trimmed and tasseled in the same colour harmonise in the most refreshing manner with the rest of the bedstead, which is or moulu throughout. The workmanship of the burnished, as well as that of the frosted scroll-work possesses the appearance of elaborate and successful attention. The whole design is light, elegant, and well proportioned; but the extreme base of the posts, springing from the castors, are much too slight to be in general accordance with the rest. The whole is, however, perhaps, the most *recherché* thing ever done in this material.

In the Belgian department (419) is a small bed of some pretensions. It is solid dark rosewood, and at either end are two reclining figures, supporting wreaths of flowers, but neither child nor man could get in or out without danger, so hemmed in is that portion devoted to rest with the cruel ornaments we have alluded to in others.

No. 26. T. Starkly, near Banbury, whose contribution is noticeable from its being a table, convertible into a bedstead, wardrobe, suite of drawers, sponge bath, &c., all compactly and ingeniously made to answer their several purposes.

No. 261. Jackson and Graham, Oxford-street, have a truly elegant figured green covered sofa. It is the *beau idéal* of a sofa. Quiet in character, and made more for luxury than for show, it fully bears out the objects of its design. The only ornaments it possesses are two three-quarter-length female figures at either end, boldly and artistically carved.

No. 56, in the Hardware Department, is an alarum bed, which turns the occupant out at any period he may have previously set the clock and its machinery to. The inventor states that he considers it "valuable to military men, sportsmen, travellers, and others, and all whose pleasure or duty require early and punctual rising. It renders the sportsman at his country-house perfectly independent of the other inmates by not disturbing them, it being perfectly noiseless, as the alarum does not strike besides tilting the sleeper gently in an upright position, without being required to do so." It is, we should suggest, equally useful for those who are troubled with sleepy servants, as the clock might be locked in a case, and a means devised, after the bed is once capsized, that it should be incapable of use until unlocked by the mistress or some other person. We recollect a less practical suggestion by a wag, who stated, that if a man suspended a kettle of water over his head while in bed, he might lie upon his back with a lighted candle held in his mouth, by which he could read a book; and, if he fell asleep, the boiling of the water would arouse him in time for breakfast.

634. Franz Lechner, in the Austrian department, exhibits an elegant couch, which shows an earnest knowledge of the requirements of repose. It is much higher at the head and shoulders than at the feet, which gives additional consequence to the pillow, and a more natural inclination to the body. At the end there is a footboard, which, although it might be rendered more in accordance with the rest of the design, is an addition of importance. The head of the couch is broad and ample. A small arm on one side, and a much larger one at the other, extending about midway down, serve to dispose the body in a variety of easy attitudes most conducive to rest. It is altogether but slightly raised from the ground, and offers as agreeable a reclining place as we think it is possible to devise.

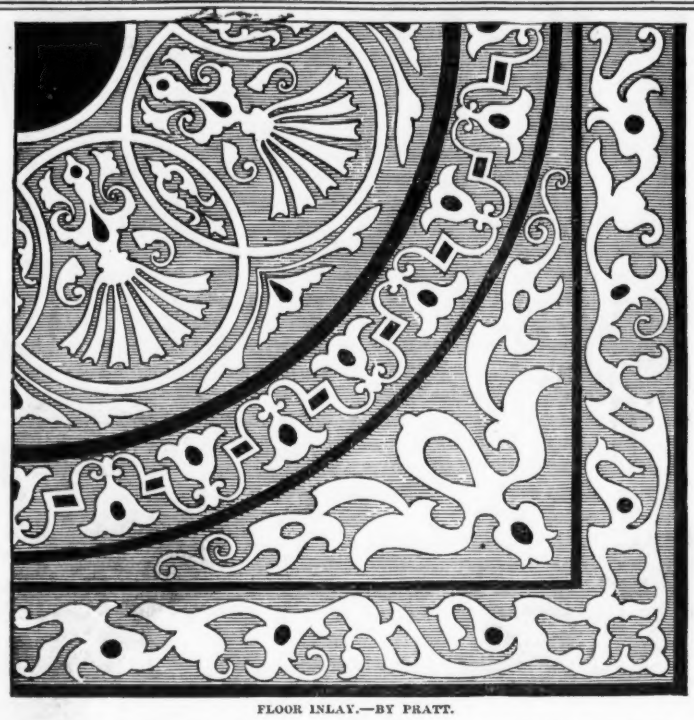
417. In this French department is a sofa of chaste and almost classic design. The back is formed by three divisions, divided by light and open through carving. This carving is beautiful in the extreme; but, while it is sufficiently solid in effect, and certainly so as applied to a chair in its immediate precincts, it is far from strong enough for the sofa itself. It is in the latter far too fragile and crisp; and were a person of but half the weight of a London alderman to throw himself back (setting aside the strength imparted by an extra glass or two of claret), it would snap into fragments, and the cause of the destruction would find himself with his heels in mid air. Indeed it gives slightly to the pressure of the hand alone, and we may, therefore, conclude, that, like the majority of the furniture in the Exhibition, it is made for ornament and not for use.

1338. (France), F. Maillard.—A Californian portable bed, which, states a label upon it, "may be carried under the arm without inconvenience," but which we, although accustomed to *tour* with ample pack of sketching materials, fishing gear, &c., found as much as we could conveniently lift.

There is an ingenious contrivance in the English Furniture Department, termed an Iris, or patent universal reading or copying desk, which, as it affords to invalids the opportunity of reading in bed, we will let our readers know what its inventor thinks of this practice as an occupation. He says, "A word of the laziness of reading in bed. There is a far worse and more common vice than laziness of body—laziness of mind, and those who are eternally exclaiming against the first are frequently

willing slaves to the latter. Nothing which aids in banishing this mental stagnation, and in encouraging sound thought, is to be despised. Great thinkers, ancient and modern, have agreed that bed is the place for reflection. An occasional half-hour's thoughtful reading, stolen from the stillness of the early morning, before we are immersed in the business or the amusements of life, will give point to our reflections, and do none of us any harm. You are not advised to lie in bed *to read* (though this is not so bad as murder, especially in November), but sometimes to curtail the idle half-conscious morning dose, which unprofitably runs away with many an unheeded, but valuable hour, redeeming time and reclaiming thought from the barren waste of rapidity. Try it, reader! Place the Iris ready near the bed; you will find your mind unusually fresh at that time, all the more from being removed from any care about supporting its dull companion the body. In a few mornings you will look forward to it as a delightful privilege, and (thanks to the perfect abstraction, favoured by stillness and bodily repose) you will gain so much new and valuable thought, that you will afford to smile at the imaginary sin, or the foolish parrot-like cry at the idea of reading in bed."

Thus it will be seen, although there is much to claim attention amongst the bedsteads, there is but little to elicit praise, always keeping in view that utility and comfort stand first in appreciation, and that, without these, decorations, however florid or artistic, must in this particular take but a secondary rank.



FLOOR INLAY.—BY PRATT.

FLOOR INLAY. PRATT.

This is one of numerous specimens of floor inlaying, produced by machinery by Mr. Pratt. This invention enables us to procure an agreeable variety in the arrangement of our wood flooring; and though it does not show anything worthy to enter into competition with the masterly productions in this line from Russia, it is deserving of commendation.

LOCOMOTIVE ENGINES.

THE locomotive engines, which form the most conspicuous portion of the railway plant exhibited at the world's gigantic Fair, are not quite so difficult to discover as the clocks and watches, and other articles of comparatively minute dimensions. England, France, and Belgium are the only countries contributing specimens of the locomotive engine of 1851. Unlike some other inventions of great utility, the locomotive in its present state is the joint production of many minds. In its infancy it was a comparatively insignificant machine; in its present condition, however, a single locomotive engine of the first class represents in power many hundreds of horses. When Murdoch, the great friend of Watt, produced his three-wheeled locomotive engine to run on common roads, a model of which is exhibited in the Great Glass Building by the celebrated firm of Messrs. James Watt and Co., and which we illustrated a few weeks since, he little thought of the gigantic strides in locomotion which were in store for those who should come after him—when travelling by public conveyances, instead of being comparatively slow, irksome, and very fatiguing, should become easy, swift, and positively luxurious. For many years after the appearance of Murdoch's mechanical novelty, the improvements in the locomotive engine were few and far between; and it was not until the directors of the Liverpool and Manchester Railway—most appropriately called the grand experimental line—attracted the attention of engineers to the important subject of the safest and most economical method of moving loads on the railway, that anything like velocity was obtained. Hitherto a speed of a few miles per hour, on the Killingworth Colliery line, and the Stockton and Darlington Railway, had been found sufficient for the transport of coals; but when it was determined to convey passengers as well as merchandise by railway, it became quite essential, in order to eclipse the fast coaches of those days, to ensure a velocity above the high rate of speed which distinguished the Devonport "Quicksilver," the Cheltenham "Hirondelle," and the Shrewsbury "Wonder." The directors of the Liverpool and Manchester Railway, however, in giving their invitation to mechanical engineers to compete for a premium to be awarded to the builder or inventor of the best locomotive engine suitable for their railway, were satisfied, in the first instance, with a speed equal to that of the fast coaches already mentioned, viz. ten miles an hour. The competitors for the prize were Robert Stephenson, of Newcastle; Timothy Hackworth, of Shildon; and Braithwaite and Ericsson, of London. The "Rocket," the "Sanspareil," and the "Novelty" were the three engines sent by the respective competitors to the great trial railway.

The "Rocket" had outside sloping cylinders of 8 inches diameter, with a stroke of 16½ inches: the driving wheels, placed towards the front, were of 4 feet 8½ inches diameter, while the trailing wheels were 3 feet in diameter: the boiler, at the suggestion of Mr. Booth, the treasurer of the Liverpool and Manchester Railway Company, was multitubular, and is said to have been the first of the kind used in this country; the tubes were each of 3 inches diameter, and altogether 25 in number: the heating surface of tubes was equal to 117·75 superficial feet, and the fire-box surface to 20 feet; the area of the fire-grate was equal to 6 feet; the chimney was placed in front of the engine, as in all modern locomotives; the exhaust steam was discharged into the chimney, the beneficial effects of which were soon discovered.

The "Sanspareil" was mounted on four coupled wheels, of 4 feet 6 inches diameter, the driving-wheels in connexion with the piston-rod being towards the back part of the engine: the cylinders were vertical, and of 7 inches diameter, with a stroke of 18 inches; the grate and chimney were situate in front of the boiler, connected by a flue tube having one bend, the diameter of the tube being 2 feet at the grate and 1 foot 3 inches at the chimney. The surface of the grate was equal to 10 superficial feet; the steam was discharged into the chimney by means of a blast-pipe, whereby the draft was materially increased. The tube surface was equal to 74·6 feet, and that of the fire-box 15·7 superficial feet. The weight of this engine was about 4¾ tons, while that of the "Rocket" was only 4¼ tons.

The "Novelty" presented, upon the whole, the least cumbersome appearance, and its construction differed essentially from that of each of its competitors. The fire-box was circular, of 18 inches diameter, and surrounded by the water of the boiler; it was supplied with fuel by means of a hopper. A single tube, of 36 feet in length, with two bends, passed from end to end of the boiler three times; bellows placed near the chimney served to keep the fire alive. The "Novelty" had only one cylinder, of 6 inches diameter, with a stroke of 12 inches; the wheels, four in number, were each of 4 feet 6 inches diameter, the driving-wheels being connected with the piston by means of bell-cranks. The heating surface of tube was only 33 feet, and a fire-box 9½ feet, the surface of grate being equal to 1·8 foot. The weight of this engine was not much more than three tons, and during the experimental trip there was no render attached to it. The average speed of the "Rocket," drawing a gross load of 17 tons, was upwards of 13 miles an hour; and the Sanspareil, with a gross load of rather more than 19 tons, 14 miles per hour; and of the Novelty, with a gross load of nearly 10¾ tons, 15 miles an hour. The "Novelty," however, broke down more than once during the experiments; and the "Rocket" alone accomplished the distance of 70 miles, the whole length of the trial run.

Two other engines, with several improvements, were afterwards built by Mr. Stephenson, after the general plan of the "Rocket," each having an extent of heating surface more than double that of the "Rocket." Mr. Nicholas Wood, of Killingworth, was also engaged in altering the boiler of one of the old Killingworth engines; and, at the same time, Mr. Timothy Hackworth was making vast improvements in the boilers of the Stockton and Darlington Railway engines; and it is reported that Mr. Hackworth's engine, called the "Globe," was the first to run at so high a speed as fifty miles per hour. Mr. Bury, Messrs. Fenton Murray, and Jackson, Messrs. Hawthorn, Messrs. Mather, Dixon, and Co., Messrs. Tayleur, Messrs. Sharp, Roberts, and Co., and Messrs. G. Forrester and Co., followed the earlier locomotive engine-builders; and supplied a vast number of engines, from time to time, not only to the British, but also to the foreign lines of railway. The British locomotive engine-builders of the present day, who have sent samples of their productions to the Great Industrial Exhibition, are Messrs. Hawthorn, Mr. Crampton, Messrs. Stephenson and Co., Messrs. Kitson and Co., Mr. England, Messrs. Fairbairn and Sons, Messrs. Bury, Curtis, and Kennedy, Messrs. E. B. Wilson and Co., and the Great Western and North-Western Railway Companies respectively.

Taking the engines in the order adopted by the compilers of the Official Catalogue, we find the monster engine of the Great Western Railway Company (No. 506, Class 5) placed on a piece of permanent way, as a sample of the Great Western line, towards the west end of the Railway Department of the Great Exhibition. This engine was built at the company's works at Swindon, under the direction of Mr. Gooch, the locomotive superintendent, and is altogether a fine specimen of the work turned out at that extensive and interesting establishment. It is mounted on eight wheels, four of which are in front of the engine; then the driving-wheels, of 8 feet diameter; and, lastly, the trailing wheels, corresponding with those in front: the diameter of cylinder is 18 inches, and the length of stroke 2 feet. The number of tubes running through the boiler is 305, giving a radiating surface equal to 1759 feet, while the heating surface of the fire-box is equal to 156 feet, the maximum pressure of steam being 120 lb.; the actual power of this machine, as ascertained by a dynamometer, is equal to that of 743 horses. At an average speed of 60 miles an hour—the flight of the pigeon—this steam monster is able to draw the enormous load of 120 tons. The weight of the engine without fuel and water is 31 tons, and with complement of fuel and water 35 tons. In addition to which, the tender, which is mounted on six wheels, weighs 9 tons empty, but charged with water and coke, 17 tons 13 cwt—making the total weight of engine and tender at starting 52 tons 13 cwt. The consumption of coke, with an average load of 90 tons and average speed of 29 miles per hour, has been found with the ordinary mail trains to amount on an average to 20·8 lb. Most persons who have been accustomed to travel in the first-class carriages of the Great Western Railway, especially by the express train, will allow that nothing can be more luxurious in the shape of locomotion than to leave London with a morning paper damp from the press, and be transported rapidly into the beautiful county of Devon almost before you have finished the news of the previous twenty-four hours.

Next in order we find Mr. Crampton's express locomotive engine, the "Folkestone," built for the South-Eastern Railway Company. The peculiarity of this engine is the position of the driving wheels, of six feet diameter, behind the fire-box, whereby an intermediate shaft is rendered necessary. We have heard that great things are accomplished by this form of engine; but having no particulars nor accurate information on the subject, we are unable to enlighten our readers as to the true state of the case. It is numbered in the Catalogue 508.

"Speed, safety, and economy," in gilt letters on a blue flag, suspended over the "Little England," will attract the attention of the visitor to Mr. England's comparatively diminutive locomotive engine, numbered 509: the driving wheels, in middle, are 4 feet 8 inches in diameter, and the leading and trailing wheels 3 feet; the boiler is multitubular, and only of 30 inches diameter. The tank and coke receptacle are on the same frame as the engine—a plan which was successfully used ten or twelve years ago, and which is now likely to come into vogue, especially for branch lines of railway.

"Ariel's Girdle," No. 510, constructed by Messrs. Kitson and Company, of Leeds, according to the patent of Mr. W. B. Adams, is another sample of a light tank engine. It has, however, only four wheels—the hind part of the engine being connected with a composite carriage, underneath which one of the tanks is suspended. The cylinders are of 9 inches diameter, with a stroke of 15 inches; driving wheels of 5 feet, and leading wheels 2 feet 6 inches diameter, respectively; multitubular boiler, containing 83 tubes, each of 1½ inches diameter, giving a heating surface of 456 feet superficial, in addition to 39 feet for the fire-box—giving a total radiating surface of 495 feet. The coke receptacle is over the fire-box, and is capable of holding 6 cwt. The tank under the engine holds 304 gallons of water, and that under the carriage, 533 gallons; together, 837 gallons. The composite carriage in connexion with the engine is also mounted on four wood wheels, with wrought-iron tires. This description of locomotive and carriage—especially calculated for branch railway passenger traffic—has been successfully tried on the Eastern Counties Railway.

The London and North-Western Railway Company exhibit their express locomotive engine, called the "Liverpool," built according to Crampton's patent principle, and numbered 512 in the Catalogue. It is mounted on eight wheels—the driving wheels, of 8 feet diameter, being, as in the case of the "Folkestone," behind the fire-box; the leading wheels being each of 4 feet diameter; the cylinders, placed outside, are of 18 inches diameter, with a stroke of 24 inches; the total area of radiating surface is equal to 2290 feet superficial, of which 154 feet is derived from the fire-box; the total weight of engine, with fuel and water, is 37 tons, being two tons more than that of the Great Western engine, already described. According to the Official Catalogue, this engine is exhibited for its great amount of heating surface and its general construction.

The same company exhibit the "Cornwall," built by Trevethick, and, no doubt, named by himself after his native county. The novelty of this engine chiefly consists in the boiler being suspended between the wheels. It was built at the company's locomotive establishment, Crewe, in 1847, and is shown at the World's Fair for "improved construction." The cylinders are outside, and of 17½ inches diameter, and stroke of 24 inches. The driving wheels are 8 feet 6 inches in diameter; the weight of engine 27 tons.

The celebrated firm of Fairbairn and Sons, of Manchester, also exhibit a tank-engine, whose boiler is 8 feet in length, and 3 feet in diameter, having 88 brass tubes, each of 2 inches diameter. The effective heating surface is equal to 480 square feet; the fire-box of copper 2 feet 5 inches long, 3 feet broad, and 3 feet 5 inches deep. The cylinders are of 10 inches diameter, with a stroke of 15 inches. The driving wheels, in middle, are of 5 feet diameter, and the leading and trailing wheels of 3 feet 6 inches diameter respectively. The tank is placed underneath the foot-plate, and contains 400 gallons of water. The ascertained consumption of coke by this engine is 10 lb. per mile; and in working condition the weight is 13 tons: useful load, six composite carriages, with 250 passengers. Similar engines are at work on the railway from Lancaster to Skipton, and on the Belfast and County Down, and Newry and Warrenpoint lines respectively.

A double boiler-tank engine is exhibited by Messrs. E. B. Wilson and Company, numbered in the Official Catalogue 526. As its name to a certain extent implies, the principal novelty consists of introducing two multitubular boilers side by side instead of one, as in all other locomotives of the present day. It has six wheels, four of which are coupled, including the driving-wheels, of 5 feet diameter; while the leading wheels are 3 feet 6 inches. The outside cylinders, placed horizontally, are 12½ inches diameter, with a stroke of 18 inches. The whole length of engine is 24 feet 3 in.; breadth, 8 feet 3 in.; and height, from surface to top of chimney, 13 feet 6 in.; the whole weight of engine, exclusive of fuel and water, is 16 tons; and the additional weight, with complement of coke and water, 3 tons 17 cwt.; making together 19 tons 17 cwt. The tubes, of 1¾ inches diameter, are altogether 136 in number, giving a radiating surface of 694 feet superficial, in addition to which the heating surface of fire-box is 61 feet; together, 755 superficial feet. The tanks will hold 520 gallons of water, which is found sufficient for a journey of 25 miles. The coke space is equal to 42 cubic feet, or 15 cwt., equal to 26 bushels of coke. In addition to the above particulars, we are enabled, owing to the intelligence of the attendant, to furnish the following:—Buffers, 5 feet 9 inches apart, and 3 feet 3 inches above the top surface of rails; the centre line of boiler is 4 feet 9½ inches above the same level; length of the boilers, 10 feet; and diameter of each 21 inches. The fire-boxes, 2 feet 2 inches by 1 foot 9 inches, and 4 feet 9 inches high; fire-box shell, 4 feet 4 inches by 2 feet 9 inches; front and back water spaces, 3 inches; middle ditto, 3½ inches; sides, 2½ inches; collective areas of cross section of tubes, 289 superficial feet; area of fire grate, 7 feet 5 inches; length of connecting rod, 4 feet 9½ inches; diameter of pump valve, 1⅞ inch; length of slide block, 10 inches; diameter of crank axle in centre, 6 inches; size of under bearing, 7 inches; and of outside bearing, 5½ inches; diameter of trailing axle, 5½ inches; size of bearings, 7 inches by 5½ inches; diameter of leading axle in centre, 4 inches; bearings, 7 inches by 3¾ inches; breadth of tires, 5¼ inches; thickness, 2⅜ inches; spring plates, 3½ inches by 5-16ths inch.

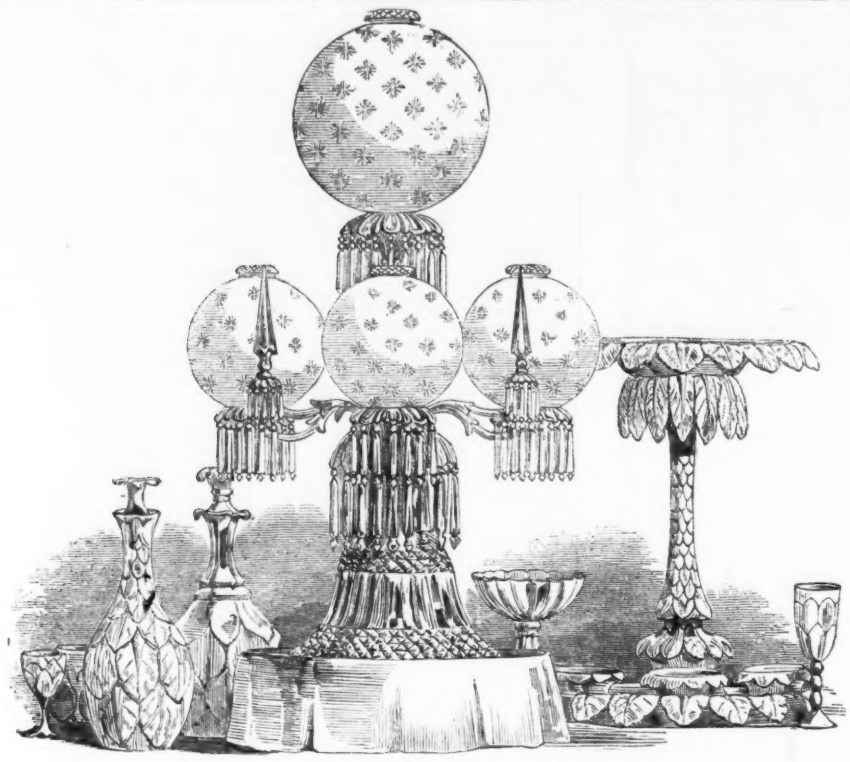
Messrs. Kitson, Thompson, and Hewetson, of Leeds, the builders of the little engine on Adams' principle, called "Ariel's Girdle," also exhibit one of their own tank engines on six wheels, the drivers being in the middle, and of 6 feet diameter, while the leading and trailing wheels are 3 feet 8 inches diameter respectively; the cylinders, placed outside, are of 11 inches diameter, with a 22-inch length of stroke; there are 105 tubes, each of 1⅝ inches diameter, giving 536 superficial feet of heating surface, with an addition of 62 square feet for the fire-box, making together 598 feet. The tanks will hold together 500 gallons of water; the complement of coke being 10 cwt. The whole is well finished, and the name we find attached to it is "Aërolite," numbered in Catalogue 534.

Last, though not the least important of the locomotive engines exhibited by various celebrated makers at the World's Industrial Show, is a handsome passenger engine from the works of Messrs. R. and W. Hawthorn, of Newcastle, whose house has now been famous for so many years. It is numbered in the Official Catalogue 536, and bears the name of the makers. It is mounted on six wheels; the drivers being 6 feet 6 inches, and the fore and hind wheels of 3 feet 9 inches in diameter respectively. The cylinders are of 16 inches diameter, and the stroke of piston 22 inches. The number of tubes, of brass, is 158, each of 2 inches external diameter, giving a radiating surface of 865·4 superficial feet, in addition to 110 feet of fire-box, making a total of 975·1 superficial feet. There is a bridge across the fire-box, having an additional water space. All the framings, both inside and out, extend the full length of the engine, and are firmly connected together by strong iron double-knee brackets. The whole of the machinery was fitted and fixed entire y independent of the boiler, and, when completed, the wheels and axles being put into their proper positions, the boiler was fixed in its place, and firmly secured by bolts to the brackets already mentioned and to the outside frames. There are four novelties in this engine; viz. Messrs. Hawthorn's patent double compensating beams, their patent slide valves, their patent link motion, and their patent steam pipe. Instead of the six springs ordinarily used in locomotive engines, the builders of the "Hawthorn" have introduced on each side of the engine two beams and two springs, by which a direct action is communicated at once to all the axle bearings, so that a uniform weight is constantly maintained on each of the wheels and axles, thereby securing a constant amount of weight upon the driving wheels for adhesion, a matter of considerable importance. Secondly, the patent slide valves are placed vertically between the cylinders in one steam-chest in the usual manner. One slide valve has a plate, cast or bolted, upon the back, which is accurately planed so as to be perfectly parallel with the face of the valve. The other slide valve has a box cast upon the back, into which is fitted a projection or piston, the face of which is also planed so as to be parallel with the valve; it is packed in the most simple manner and made steam-tight, and then put into the steam chest, as in ordinary valves. A passage is formed between the exhaust ports through the slide valves, thus giving a free discharge to the steam. These valves are relieved from one-half the pressure of steam, and, consequently, one-half the friction. Thirdly, the patent link motion is also introduced into the machinery of this locomotive. The expansion link, intead of being connected to the ends of the eccentric rods, and having to be continually raised up and down with them, is directly connected by an eye-joint to the slide rod, and there suspended; hence its weight is removed from the reversing gear. Having a fixed centre, the link requires less power to move and regulate the slide valves; the link is also much more durable, as the sliding block is more than three times the length of the ordinary block. Lastly, their patent steam pipe is substituted for the domes and cumbrous projections on the top of the boiler, this pipe is fixed into the tube plate of the smoke-box by a ferule, as in the case of an ordinary tube, and extends nearly the whole length of the boiler, being placed near to the top; it is perforated along its entire extent with small slits, so proportioned as to admit the steam into the pipe directly above the place of generation. This is a manifest improvement on the ordinary method, where the steam has to reach from all parts of the boiler to one or two orifices, as it is now conveyed to the cylinder in a purer state; moreover, *priming* is, to a considerable extent, avoided.

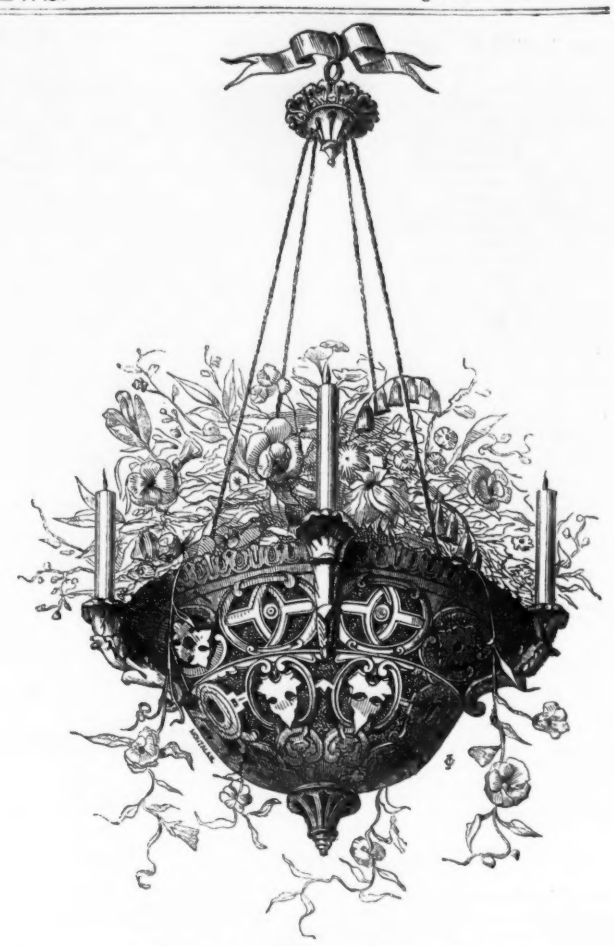
Having completed our survey of the British locomotive engine department, we will now briefly describe the locomotive engines sent by our Belgian and French competitors respectively. From Belgium we find only two engines, and from France only one. The Belgian locomotives are placed near to the north wall of the department allotted to contributions from that country. The first from the Société de Couillet Belgique, numbered 120 in Catalogue, is a six-wheel engine, constructed after the plan adopted for some time by Messrs. R. Stephenson and Co., of Newcastle. The six wheels, of 5 feet diameter each, are all coupled; the boiler is multitubular, and contains 185 tubes of 1¼ inches diameter. The workmanship and finish are altogether inferior to the manner in which all the British locomotives are turned out. A six-wheel tender is attached.

The second Belgian locomotive engine, No. 119 in Catalogue, is from the celebrated house of Cockerell and Co., of Seraing, near Liege, one of the most extensive establishments of the kind in Europe, where the coal and iron are raised on the spot, and the latter converted, by powerful machinery, into the various parts of locomotive and fixed engines, which are turned out in considerable numbers. Having had an opportunity of going over the Seraing works, we are enabled to speak of the interesting establishment in which the "Vallée de la Vesdre" was constructed. This engine is mounted on eight wheels, four of which, including the drivers, of 4 feet diameter, are placed behind, and four bearing-wheels, of 2 feet 8 inches in diameter, in front; the cylinders are placed outside, and in a sloping position. The novelty in this locomotive appears to be a "donkey," or auxiliary pump, with, however, a good deal of work about it.

The solitary locomotive engine from France is to be found in the machinery department of the space allotted to that country. It is named "Lahore," and is from the firm of Messrs. J. F. Cail and Co., being somewhat similar to that of the Belgian company, Couillet, having six coupled wheels, of five feet diameter. It stands above an *engine race*, or pit, which has been constructed for the purpose of allowing the machinery to be examined, which will not, however, bear comparison with the exquisite workmanship of the British locomotive engine builders.

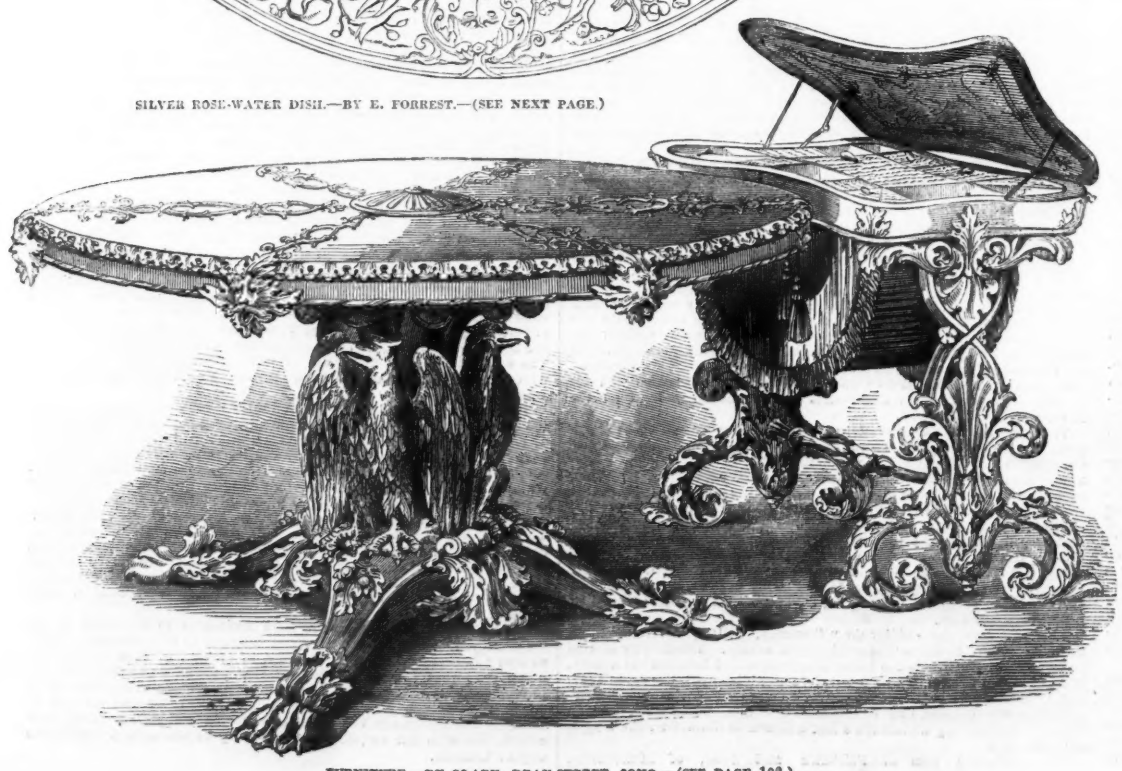


GROUP OF GLASS.—EXHIBITED BY MESSRS. POWELL.—(SEE PAGE 193.)



"SUSPENSION." BY VOISINLIEU.—(SEE PAGE 193.)

SILVER ROSE-WATER DISH.—BY E. FORREST.—(SEE NEXT PAGE.)



FURNITURE.—BY CLARK, DEAN-STREET, SOHO.—(SEE PAGE 193.)

CHURCH LAMP.—BY BRUCKMANN AND SONS, WIRTEMBURG.

This little silver lamp is almost unexceptionable as a specimen of cheap and showy Gothic workmanship.

CHATELAINE.—BY J. B. DURHAM.

WORK-TABLE, FROM HAMBURGH.

SILVER ROSE-WATER DISH. BY WAGNER.

This rose-water dish (p. 196), partially gilt, is the work of the late celebrated artist Wagner, of Paris, who designed, modelled, and chiselled all his own works. It is known to have been the last work he executed, and has very great merit, more closely resembling the best works of the Italian school of the fifteenth century than most other works of the present age. It is exhibited by Mr. Forrest, of the Strand.

CHATELAINE. BY J. B. DURHAM.

Here is a specimen, in its utmost completeness, of those *petits affaires de rien* without which young ladies of the present day fancy they are not properly equipped for the domestic circle. Future generations of readers will stare and rub their eyes when they contemplate this childish decoration of their grandmothers.

BOOK-CASE. BY RIVART AND ANDRIEUX.

The use of porcelain as an inlay to ebony seems peculiar to this house; but the present book-case is not so happy a specimen of its use as the casket in front of it. The work engraved below is, however, a very showy piece of furniture, in style belonging to a late *renaissance* era, and appears to deserve the credit of being one of the best examples of French workmanship in the Exhibition.

CENTRE-PIECE. BY LA HOCHE.

We engrave another of M. La Hoche's very handsome works in porcelain and or moulu for the decoration of the centre of a table. The designs are very tasteful and creditable as works of art.

WORK-TABLE. BY P. MEHNE.

This rosewood table, with bag in crimson silk, is a very pretty design of the 18th century, and German fashion, containing numerous divisions and boxes, with mirror, work-bag, &c. The effect of the chenille fringe is very good.

CENTRE-PIECE, PORCELAIN AND BRONZE.—BY LA HOCHE.

BOOK-CASE IN EBONY.—BY RIVART AND ANDRIEUX.

SURGICAL INSTRUMENTS.

SURGICAL instruments might naturally be supposed to offer but little interest to the general public; yet the display which is exhibited, both by the British and foreign manufacturers, is so replete with curious contrivances, and is so remarkable, that we feel bound to give a short notice; and we venture to hope, that even the non-professional reader will be gratified with the account of some of the curious adaptations which have been devised to alleviate suffering or to cure disease. The time has long since passed away when the surgeon alone commanded respect for bold operations, and the medical man is now most esteemed who, by skill and judicious treatment, and who, by the power of thought and the use of the faculties of the brain, so treats his patient that the knife is unnecessary, and nature is assisted to work its own more natural cure. In this manner, hundreds of limbs which were formerly recklessly amputated are now saved to the patient, and this class of operation is lessened, by skill and judgment, to an extent which hardly admits of belief. Of late years, however, an extensive class of new operations has been introduced for the cure of deformities of various kinds; and though even here, perhaps, in future days the necessity for operating may be lessened yet, whilst it exists, their performance confers a great boon to the patient.

First and foremost, we have to consider the orthopœdie operations for the cure of contracted limbs, club-feet, &c. These deformities are cured by a division of the tendons of certain contracted muscles, when, by mechanical contrivances, the limb is brought into its proper position. The after mechanical adaptations require much skill and knowledge on the part of the instrument-maker; and, after minutely inspecting the instruments exhibited, we are disposed in this matter to award the first place to Mr. Ferguson, of Smithfield, who has notoriously the largest business in this department of manufacture. The non-professional public may observe with much interest the curious contrivances by which the club-foot is restored to its natural form, and by means of screws and springs the distorted member is compelled to assume its natural position.

The operations which are performed to remedy defects of vision, or to cure squinting, demand particular attention. The deformity of squinting detracts much from personal appearance, but surgeons have now an operation which very rarely fails in the hands of the skilful practitioner. It consists in the division of the muscle which draws the eye on one side. When the wound heals up, and the deformity is rectified, other operations are performed on the eye to remove or heal up the crystalline lens, the opacity of which constitutes cataract; and again delicate operations are sometimes required for the purpose of forming an artificial aperture in the curtain or iris, when by disease it has become artificially closed. For all these purposes the most delicate and perfectly constructed instruments are required; and, in our judgment, the palm must be awarded in this case to our French neighbours; and we may even say that we are surprised at the excellence, ingenuity, perfection, and cheapness of the articles which they have exhibited. For ophthalmic instruments, perhaps M. Luer must be considered the first exhibitor; and when we mention that in our presence he took a cataract needle, bent it backwards and forwards, cut his nail with it, and then shewed that it retained its cutting edge sufficiently well to cut a piece of leather, the surgeon may form an idea of the perfection of the manufacture. The whole of these ophthalmic instruments are so excellent, that doubtless the English surgeons will become extensive purchasers; and there are several different instruments for cataract and artificial pupil which are not known in this country. Whilst we are inclined, in ophthalmic instruments, to award the first place to M. Luer, yet the difference between him and M. Charrière in this matter is hardly appreciable, as his ophthalmic instruments appear to possess the highest order of merit.

There are exhibited by many manufacturers different specimens of trusses, and the practical surgeon knows that sometimes one is preferred, sometimes the other, according to the particular case which has to be treated; but we have now to call attention to that which has lately been devised by Dr. Arnott. We have, on many occasions, had to notice the obligations which the profession and the public owe to the ingenuity of this distinguished philosopher, and perhaps in no respect is he entitled to his well-deserved reputation more than in this invention, the particulars of which he has not even, as yet, published. The truss itself may be seen in Mr. Ferguson's case, and it is so contrived that it can be made of any strength in the spring, the form of the spring can be regulated to the greatest nicety, and the pad can be set to any inclination to the spring, and there fixed. By this excellent device, some of the worst forms of disease can be effectively reduced, and by this contrivance a desideratum long required has been efficiently supplied. To the honour of the medical profession, and the credit of the true philosopher, this invention, like all his former ones, Dr. Arnott has given to the public without reward, and hence any mechanic may make it, either for his own use or for sale.

In Mr. Ferguson's case are also shown instruments adapted to support the patient in cases of lateral or posterior spinal curvature. Such contrivances are, undoubtedly, occasionally required; but the majority of these deformities, especially in the slighter cases of females, are owing to the improper use of stays, which are so contrived as especially to favour such deformities; and, in fact, the majority of these abominations shown in the Crystal Palace may be viewed rather as articles to be avoided than to be commended. Every mother should know that the female form is never developed in all the beauty of nature if it is permitted to be impertinently meddled with by art, and hence the Chinese shoe or Indian compress are no whit more barbarous than the English stays. The one destroys the foot, the second completely alters the shape of the head, and the last contorts the chest and forms a lateral curvature in the back; so that, whilst we may send out schoolmasters to civilise the Chinese and Indians, they, in return, may send to this country teachers to rectify English notions.

Whilst upon deformities, we may call attention to artificial legs and arms, in the South-east Gallery, which are employed in the Austrian army after amputation has been required. They are shown for the economy of their manufacture, and are certainly vastly superior to the wooden pegs and hooks used in this country. Artificial noses are shown, which wonderfully hide the injury to the countenance caused by a loss of that organ; and artificial eyes have been contributed by Grossmith, and in this department the French are also exhibitors, in the person of M. Boissonneau. We have not observed that Mr. Gray is an exhibitor in this department—a circumstance which we regret, inasmuch as, in our experience, his artificial eyes are entitled to the first place, for beauty of finish and excellence of workmanship. Artificial eyes are used to correct the deformity which is produced by a collapsed globe; and so perfectly can they be adapted to imitate the other eye, that it is with difficulty that the one can be recognised from the other. We remember to have adapted an artificial eye to a shoemaker who was unfortunately in this position, and when he next went to his club his companions were mightily astonished at the difference, declaring that it must have been a wonderfully clever surgeon who could have converted so hideous a tubercle into so perfect an eye; and they never for a moment supposed that he simply wore a glass eye between the lids. The glass eye remedies the unpleasant appearance produced by a lost eye, and it is true charity to supply such a contrivance to the poor person so situated. Glass eyes are made of very fusible enamel, which partially dissolve by the tears, and hence require to be renewed once a year or year and a half. We do not know whether any of those exhibited are so made as to obviate this very serious inconvenience.

Amongst the instruments, stethescopes are shown in many varieties. At the mill where the paper for the ILLUSTRATED LONDON NEWS is made, we were much amused by another application of the stethescope, which doubtless is new to the surgeon. The manager of the works was exhibiting the pulpforming machine to some visitors, and to convince them how true the machine acted, he gave them a piece of stick, by which he connected the machine with the ear, and in fact stethescoped his apparatus. By the stethescope, the physician ascertains what is going on within his patient's chest: he hears the air enter and emerge from the lungs; he listens to the action of the valves of the heart, and ascertains whether any deviation from a healthy function is occurring. The stethescopes made by the Gutta Percha Company are perhaps the best which modern science has afforded. For ourselves, however, with certain exceptions, we greatly prefer the ear alone, unaided by foreign contrivances. By using the means which the ear affords for the discrimination of disease, the medical man has added to his power of obtaining knowledge a most important method for obtaining information of his patient's state.

Amongst other contrivances for distinguishing disease, the instrument devised by Mr. Avery, which is shown by Mr. Weiss, well deserves attention. By the use of a speculum and lamp, he is enabled so to illuminate cavities in the body as to be able to see in situations where hitherto it has been thought impossible to obtain a view of the parts. We happen to know that Mr. Avery has laboured for years to bring his invention to its present perfection, and he must now be congratulated for his present success.

In a former article we mentioned Mr. Alfred Smee's optometer, for accurately determining the optical properties of the eye, and which is so important for discriminating the numerous diseases of defective adjustment and impaired sight.

Tourniquets, or instruments for arresting the flow of blood, are shown in many varieties. Of late years, attempts have been made so to construct these instruments, that, whilst they press upon the artery and prevent the flow of blood into the limb, they do not compress the veins and prevent its return. The instrument devised by Mr. Skey, jun., is well adapted for this purpose, and is shown in the interesting collection of instruments exhibited by Mr. Ferguson. Mr. Ferguson also shows chloroform inhalers; but many surgeons now simply place a small quantity of that fluid upon a handkerchief. At St. Bartholomew's Hospital chloroform has been almost invariably adopted since its discovery, and, we believe, has not been in any one case attended with any unpleasant result. Nevertheless, at other places accidents have occurred from its use; so that this great discovery cannot altogether be said to be free from danger. On the first announcement of the discovery, Mr. Hooper made the first in London, and sent some to our office. We tried its effects upon some rabbits, and lost one or two, from which we stated, that we feared, that, without great care, untoward results might possibly occur. Extended experience has shown that our fears were well founded; nevertheless, by proper care and skilful management, the discovery of its properties has conferred a great boon on mankind, by allowing the surgeon to convert, for a time, the conscious man into an insensible body, and by enabling him, in that state, to conduct his operations attended with as little pain as though the patient were a lifeless stone or inert log of wood.

The French instrument makers are greatly distinguished for their ingenuity, and, really, many of their contrivances are mere useless toys. Nevertheless, other devices deserve high commendation. They have an instrument for removing pieces of catheter, which is so devised, that whether caught transversely, or in any other position, it swings round into the horizontal form, and is driven out by its long axis. By this device an operation may be sometimes prevented, as an instrument may be extracted by its means, which could only otherwise be removed by the knife. The apparatus for removing the tonsils is very simple; we believe that they are much cheaper than those made by our instrument makers. There are several varieties of trepanning apparatus amongst the French instruments which deserve attention, though in civil service this is an operation which is but seldom employed.

Dr. James Arnott has shown contrivances for obtaining a loss of feeling by intense cold, and also means for keeping a constant stream of water of any given temperature against any part of the body. By the application of heat and cold vast results may be produced; and it is said that operations may be performed without pain upon parts benumbed with intense cold.

Amongst the surgical instruments are placed a series of Daguerréotype drawings by Dr. Badcock, of cases illustrating that the small-pox virus may be inserted in the cow, and gives rise to pustules, which again may produce in man the cow-pox. He states that his experiments have been conducted in 8000 cases; and hence it follows, that if the small-pox should break out in any part of the world, there is no occasion to wait for lymph from distant countries, but medical men have means at command of producing from the patients that which is competent to protect others. The discovery of Jenner is certainly one as remarkable as any in medical history. Had he done but one tithe for law or divinity what he did for physic, he would have established his family for generations; and had he slain his thousands, instead of having saved his tens of thousands, doubtless a dukedom would have chronicled the event for ever.

There are several varieties of transfusion apparatus shown by different makers. Occasionally, when a person is suffering from the last stage of fainting from loss of blood, the abstraction of blood from one person and injection into the patient has sufficed to restore life. We have seen two or three instances where such an operation has been perfectly successful, and yet it should never be performed except in extreme cases. Upon the whole, perhaps, the best instrument is that exhibited by Ferguson, with the double receiver, devised by Dr. Goodfellow, to hold the blood, and at the same time to keep it warm to prevent its coagulation.

A number of specimens of oil-silk and other transparent membranes are shown for the treatment of incised and open wounds. The art of surgery has in no direction more advanced than in the treatment of these cases; and many instances, which used formerly to be covered with heavy masses of poultice, which irritated and caused much discharge, are now treated much more elegantly and simply by a piece of lint and a covering of either oil-silk or gutta percha. This line of treatment is not only one which affords much comfort to the patient, but the progress of the cure is much facilitated, and the recovery is more rapid when this plan is adopted.

The various instruments necessary for removing calculi are shown. It was hoped that by crushing the stone the operation for lithotomy might often be dispensed with. Nevertheless, notwithstanding the great improvements in the instruments, the latter operation is found too irritating in many cases, and the surgeon has now more frequently to perform the operation for lithotomy than was originally anticipated when the new process came into use. The French lithotrites are remarkable for their cheapness, as we believe that they are sold at a much lower rate than those which are manufactured by English workmen. Mr. Wakley's instruments for dilatation are shown by two or three exhibitors; and they consist of a series of tubes, each of which slips in succession over the other. Mr. James Arnott has also shown his pneumatic dilator, but it has not met with very extensive application.

Cutting instruments, such as scalpels, bistouries, saws, scissors, are shown in every conceivable form to meet various cases. Every form of surgical needle is also shown, including those more complex contrivances for sewing in cavities far removed from the surface.

With regard to splints, many are exhibited in various parts of the Building, adapted for various fractures. When the upper part of the thigh is broken, the surgeon experiences much difficulty in keeping the bones in their exact place, and hence many contrivances have been made for that purpose. We were much pleased with the registered leather splint for fractures of the tibia and fibula, having used a somewhat similar contrivance ourselves with great success. The use of gutta percha, which Mr. Smee has brought into notice, for fractures and diseased joints, does not appear to be sufficiently illustrated, though we observed a gutta percha splint in the Indian collection. In our own practice we rarely use anything but moulded gutta percha splints, and, upon the whole, we believe that this material, if rightly is better adapted for splints than any other substance.

There are various artificial leeches shown, but the natural leech is probably preferable for taking blood to any contrivance which can be made. Cupping instruments, as a matter of course, are exhibited; and the French have exhibited a contrivance for drawing the milk by means of a vacuum, with a contrivance that the child may draw it through another tube at the same time. We have no practical experience of the efficacy of this invention, but, where necessary, it might be subjected to the test of experience.

There are several specimens of Hutchinson's spirometers, instruments used for determining the amount of air which is inspired and expired. Our present means of ascertaining the state of the chest by auscultation, percussion, and by observing the amount of expansion, are really almost ample for the purpose of distinguishing disease. At some of the insurance offices this instrument is employed; but a glass-blower or other person accustomed to the use of his lungs invariably shows a capacity of lungs which is far too great for his height and bulk. Without positively stating that in no instance it may be useful, we may state that it is far from being an universally applicable instrument for the surgeon.

The dentist appears by numerous specimens of his art. We are hardly disposed to consider the relative merits of the rival exhibitors, but the contest appears to lie between those who make their teeth of the tusk of the hippopotamus, and those who rely upon a peculiarly hard enamel constructed for the purpose. In the adaptation of artificial masticating apparatus it is necessary that they should be constructed with the greatest nicety; and perhaps the best apparatus which has yet been devised is that which has been patented by Mr. Tomes, and which has already received the medal from the Society of Arts. This machine, which is very curious, Mr. Tomes has neglected to send to the Exhibition—an omission which, in our judgment, he should not have been guilty of, as it is the most interesting addition to the mechanism recognised by the scientific dentist which has been devised of modern years. In the South-west Gallery, those who delight in the grotesque may be much amused by sets of artificial teeth which are kept in motion by mechanical contrivances.

In giving this sketch of the surgical instruments, we feel bound to express our opinion that there is great equality of perfection in the respective instruments, and we can easily appreciate the difficulties which the jury must have had in estimating their relative value. Mr. Weiss has exhibited a complete surgeon's cabinet, and his instruments, especially his forceps and lithotrites, are of the highest finish. Mr. Evans and Mr. Savigny are greatly celebrated for their cutting instruments, and, from our own experience, we must say that this latter firm are famous for the quality and temper of their knives, and, perhaps, upon the whole, we prefer their instruments of this class. Mr. Simpson has contributed a limited display of good instruments. Mr. Ferguson's case contains by far the most extensive variety of instruments, and for all the orthopœdic instruments, he must be considered to hold the first place. For minute contrivances and complicated instruments, M. Charierre and M. Luer bear the palm; so that, in point of fact, whilst all are excellent, each of the firms is distinguished for some point, and all have maintained their high reputation in the different articles which they have shown.

SIEMENS' AND HALSKE'S TELEGRAPH, KNOWN AS THE "PRUSSIAN TELEGRAPH."

In the summer of 1849, having occasion to examine the telegraph system of Prussia, with a view to corroborate the efficiency of a plan recommended for the adoption of the East India Company in their vast Asiatic possessions, we had opportunities of seeing not only the factory where Siemens' telegraphs are constructed, but also of examining the instruments at work at several of the railway stations. We are glad to find that the inventors have contributed a pair of these instruments, in working condition, to the Great Palace of International Industry, which are placed in the Middle Gallery South, and in the Zollverein department. The chief peculiarities of these instruments, which are both indicating and printing telegraphs, are their self-acting and self-regulating qualties, as neither clock-work nor aid by hand is required, the electric current itself being the only acting agent, thereby causing its successive breaks and restorations to be such, that the former are always the natural consequences of the latter, and these take place at two or more stations (if required) simultaneously. In order practically to show the working of these instruments, two tables are placed at some distance from each other, representing the same number of stations, at each of which is an indicating telegraph with a printing instrument attached, the latter performing the duties of secretary to the former, as the signals transmitted are all noted down by the latter.

The exterior of the indicating telegraph is very simple; it consists of a hand which moves round a horizontal dial plate by the action of the electric current, having thirty keys placed radially and marked with the letters of the alphabet and other necessary signals, the hand making from 35 to 40 revolutions in a minute, and which is stopped by pressing down any one of the keys as required at the moment when it has arrived opposite to it: during the time the finger is on the key the electric current is interrupted.

In consequence of the hands of the instruments at the different stations working in concert, the same signal is pointed to on the different instruments simultaneously. By releasing the key the armatures at the different stations move on, continually pointing in the same direction, and the current is renewed. The indicating apparatus consists of two parts; viz. the alarum and the telegraph: the use of the former is to give notice to a given station that a communication is about to be transmitted thereto. This is effected by a hammer striking in rapid succession against a bell, and it continues to do so until the manipulator has prepared the telegraph for the transmission of a message: this is done by a *commutator* on the right hand side of the telegraph and on the same board. This commutator is merely a short lever or arm, which, by being turned in one direction or the other, brings the line-wire into contact with one of two springs of German silver. One of these springs is connected with the works constituting the telegraph, and the other with the alarum. The positions of the two springs are indicated by the two letters T and R: so that by turning the arm towards T the line-wire is brought into contact with the spring for the telegraph; and, on the contrary, by turning it towards R, with the alarum spring. When in a state of rest the commutator arms of both instruments will stand on R, and the telegraphic, *i. e.* the T battery, of each station will be excluded from the circuit. If at any of the stations the arm is turned from R to T, the T battery at that station is included in the circuit, and the alarum, *i. e.* the R battery, excluded; consequently, the telegraph alone will act at such station, while both the alarum and the telegraph will act at the other. The construction of the telegraph is different from that of the alarum, as it requires currents of electricity of longer duration and greater intensity, so that the included alarum at the other station will act before the telegraph is in working order. The officer of this second station having been aroused by the alarum, turns the arm of the commutator on T, so as to exclude the alarum as soon as the sound has been given: this being done, the message may be transmitted from one station to the other.

The working of the printing apparatus, which, as already observed, is connected at each station with the indicating telegraph, and is generally in action with it, is in principle similar to that of the latter, but by mechanical arrangements is made to answer another purpose. There are neither keys nor an armature connected with it: instead of the latter there is a wheel having 30 steel springs, on the thickened ends of which are engraved the same 30 letters and signals as on the keys of the indicating telegraph, but in a reversed position. When any key of the indicating telegraph is pressed down, the printing telegraph will stop at the same time as the former, and the type wheel moving in concert with the armature, is adjusted in such a manner that the corresponding spring always stops below a hammer, which immediately falls down and strikes the type engraved on the end of the spring against a blackened roller over which runs a band of white paper to receive the impression. The hammer is moved by a magnet excited by a local battery, the current of which, not being strong enough or of sufficient duration to influence the armature, is continually broken and restored when the instrument is in use; but when it is inactive a continuous current acts upon the magnet, thereby causing the hammer to strike off an impression of letter or signal, and at the same time break its own current and fall down again. The blows against the springs of the type wheel are also used to turn the roller the breadth of one signal by forcing the roller to screw itself round once, and the distance thus acquired is the desired breadth. By this arrangement new surfaces of the roller are repeatedly exposed to the hammer, until the blackening has all been impressed on the strip of paper, when the process of blackening must be repeated.

These four instruments are connected with only one line-wire; they require no regulation of current, and will only run quicker or slower according to the powers of the battery. Another advantage is, that the message need not to be returned to have its correctness proved, as by the use of the hammer the possibility of mistakes is entirely done away with. An experienced manipulator will communicate more than 60 signals in a minute with unequalled certainty. If the message is required to be sent to the farthest station only, the intermediate ones can be excluded from the circuit by means of an instrument, invented by the same gentlemen, and known as the "excluding alarum," a model of which has been deposited at the Exhibition, and is placed near to their other instruments. By means of this instrument a message may be conveyed to the extent of 250 miles, when the conducting-wire is in good condition. When the message is finished, a button is pressed down at each of the stations in communication with each other, which causes both batteries to act exclusively on the alarums of the instruments at all the intermediate stations; the officers of these intermediate stations turn up an arm of their instruments respectively, which causes their stations to be again included in the circuit.

On railway telegraphic lines another instrument is used, consisting of a large alarum with two powerful bells, which are stationed along the railway at such distances from each other as to be heard at every part of the railway when acting simultanously. They are placed in the railway watch-houses, and are included in the same line-wire, and are made to work in the same manner as the excluders, by pressing down a button. The button is always pressed when a train starts from the station, and is repeated by the other instruments to the next station, to inform the watchmen along the line of the fact. This instrument is used to a great extent in Germany, and is found very convenient for railway management. The other instruments of Siemens and Halske, before mentioned are in use on all the Prussian Government lines, and nearly all the railway lines of the north of Germany.

Another telegraph exhibited by the above firm, and invented by Mr. Siemens, resembles in some particulars Morse's American Telegraph, as it prints dots on paper by two pins in different lines. It is worked by a local battery, and also produces audible signals by the striking of two hammers against two different-sounding bells. The apparatus consists of a communicator and a receiver. Of the former there are two kinds exhibited: the one consists of two keys only, and the other of thirty, with all the letters and other signals marked upon them; the alphabet of the former communicator is the same as that of the English needle telegraph, a dot on the upper or left line, and a sound of the light bell, corresponding with a movement of the needle to the left, &c., and instead of moving the handle to the left or right, the left or right key is pressed down. By using the other communicator, with the thirty keys, it is only necessary to press down the key which corresponds with the signal to be sent.

BASKETS AND MATTING.

IT is interesting, amid all the display of complicated inventions and manufactures, applications of old and new materials to innumerable purposes, and marvellous combinations of modern machinery and industry, so abundant in the present extensive exhibition of the results of human thought and labour, to turn for an instant to one of those simple and primitive arts, which, born in the infancy of our race, still flourishes in a green old age, one of the most extended and generally useful of man's ingenious contrivances.

The idea of intertwining, weaving, or plaiting straw, reeds, rushes, &c., for the formation of various articles of domestic comfort, is so naturally suggested by the abundance of the substances in question, and their facility of manipulation, that we do not wonder at finding the origin of the manufacture lost in the shadows of early fable, like the origin of agriculture itself, which it possibly preceded in antiquity. Nor is this an unfounded hypothesis, for savage nations, ignorant of the cultivation of the soil, are often constructors of baskets, mats, and similar fabrics; indeed, it is not unfrequently a most important part of the industry of uncivilized or semi-civilized nations. In some islands in the South Seas, so many mats, or baskets, are the forms in which taxes or tribute are liquidated; and there is scarcely a race or tribe on the face of the earth totally unacquainted with their manufacture. The mere act of twisting a few rushes in the hand might suggest the first idea of the fabric, and a single man might unaided, and without other machinery than his two hands given, him by nature, bring the art to a very high degree of perfection. In fact, a day's experience might lead a clever fellow to the creation of a very tolerable piece of matting, whilst the progressive mechanical genius of many ages could alone suggest the application of the same straw-reeds, or rushes to the manufacture of paper—one of the greatest triumphs of modern industrial ingenuity. We may mention casually, that, in the United States department of the Exhibition, are some specimens of straw paper and pasteboard, of the most admirable manufacture. Nor should we despair, were the paper duties removed, of the employment of a variety of fibrous vegetable substances in that important manufacture, which is capable of a reduction in cost that might appear fabulous to those uninitiated in the matter.

The matting of India is justly celebrated; and we accordingly find, in the Indian department, a variety of specimens of the most delicate and beautiful texture. Some of these mats are almost as flexible and fine as cloth, and are worked into the most tasteful and regular patterns in different colours, the straw being dyed with permanent tints for the purpose. Some are of thin rushes, some are of the most complicated woof, and others consist merely of straws or rushes laid smoothly side by side and carefully united at the ends. "Palghal mats from South Malabar" is their designation in the Catalogue. There are also baskets and seats of admirable make. But in the Canadian department, opposite, is a piece of stuff woven of the finest grass, which decidedly carries off the palm for fineness of texture, and indeed suggests very endurable garments for a primitive state of life. Of this description is the *tappa*, or native cloth, of the Sandwich Islands. It is more difficult for a European, accustomed to the luxury of calico, linen, and lawn, to understand the comfort of an openwork shirt, made of little slips of bamboo for summer wear in *China*, and exhibited in the department of the Celestial Empire. Leaving which, after vainly searching for other specimens of interest, we discover in the Tunisian territory some straw matting almost equal in fineness and finish to that of the Indian exhibition; besides a vast collection of high steeple-crowned straw hats, with brims as broad as umbrellas—no doubt, very pleasant wear in a country where the sun blazes so fiercely over the cranium of the traveller. A great many baskets for dates are also to be seen; but both the hats and baskets are rather of the useful than the ornamental class of merit. Yet it is curious to contrast these rude *sombreros* with the exquisitely plaited straw bonnets exhibited in the Tuscany department, by Messrs. Vyse and Sons, of Prato, and Nannucci, of Florence, or with the Brazilian hats made of the Cuban flag grass, or the Dunstable bonnets of various kinds, exhibited by our own countrymen in the South Transept Gallery. There, too, are worthy of notice—the bonnets made from the English willow by Messrs. Woodhouse and Luckman, which have a very elegant appearance.

In the North Gallery, west of the Transept, are specimens of English basket-work, &c., to which we must now refer. Beehives are a time-honoured production of basket-makers: accordingly, we find several examples of this popular structure, amongst which we specially notice one by Mr. John Ramsey, of Berwick-on-Tweed, with moveable bottom and screw, with a moveable crown, and with glass crown, &c., which appears to us extremely suitable for all practical purposes. Our attention is next arrested by the works of the School of Industry for the blind, manufactured entirely by blind persons, consisting of worsted and cocoa-nut fibre door-mats, fire-screens, baskets, dish-mats, &c. We cannot say that the ornamenting the cocoa-nut fibre mats with worsted has a good effect, nor that the union of the two materials is judicious. Messrs. Bevington and Morris, of King William-street, exhibit cocoa-nut fibre matting and mats, with some Manilla hemp and worsted door-mats.

Mr. T. Treloar, of Ludgate-hill, displays matting, rug, &c., of cocoa-nut fibre and Manilla hemp, which appears a remarkably strong and successful combination. Messrs. Wildey and Co., of Holland-street, Blackfriars-road, are patentees and manufacturers of cocoa-nut fibre, floor mattings, door-mats, netting, &c., and show also some specimens of nets made of cocoa-nut husk fibre, which appear very strong and serviceable. These cocoa-nut fibre mats are indeed a great improvement on the old hempen mats, and for the floors of rooms present one advantageous peculiarity, perhaps not generally known, viz. that they do not give out dust when trodden on, which makes them very recommendable for the studios of artists.

Mr. J. King, of Tufton-street, Westminster, exhibits some baskets and a chandelier of coloured straw: the latter is rather a curiosity in its way, but we doubt whether many people would care to risk one in their drawingrooms. Messrs. Robinson and Co. exhibit specimens of China matting, and stained in pattern by a new process. This is a fabric of rushes, which are shown also in their raw state, and dyed with various colours. Messrs. Armstrong, of Chad's-place, Gray's-inn-road, exhibit carriage-rugs, mats, rugs and mats of worsted, with hemp and jute and cocoa-nut fibre. Some baskets are also exhibited by the School for the Indigent Blind, St. George's-fields, Southwark. There is something very touching in this sharing of the poor people who are cut off from all hope of beholding its splendours in the Great Industrial Festival of all Nations. They claim a passing thought; they seem to say, "Look at our works, which we ourselves have never seen, Pity our sad privation in the midst of the enjoyments of that glorious sense which for us is not."

A basket for soiled linen, by Mr. J. Williams, of Exeter-street, Strand, is remarkable for the fineness of the workmanship, though we must give preference to the pagoda-shaped clothes-basket by Mr. C. Franks, of Wolverhampton, which is really a very admirable example of basket architecture. Mr. H. Bode, of Port-sea-place, Connaught-square, exhibits a variety of baskets of excellent manufacture. W. Rendall gives us "various samples of Tuscan plait for bonnets, the straws grown and dressed in Orkney, and plaited by the females." This contribution interests us as coming from the Ultima Thule of our British dominions, and reminding us how the active spirit of industry has penetrated every nook and corner of the great land of commercial domination. Mr. C. S. Still, near Kirkwall, exhibits similar specimens. Messrs. Toplis and Sons shew the variety of purposes to which basket-work may be applied in their improved letter-basket, fancy knitting-basket, work-basket, and dog-kennel, all of which are very creditable to the exhibitors. Mr. J. Smith, of Hurstmonceux, exhibits a set of Sussex truck baskets made of laths of willow wood, very strong, and neatly constructed, and water-tight, for various purposes. These baskets would, we should imagine, be very useful in stables, or for fishmongers. A cradle made of osiers, by Mr. W. Tarbutt, of Cranbrook, Kent, ornamented neatly, and moved by a weight and springs, seems well adapted to the purpose for which it is intended. Altogether, the English exhibition, in this department shows, as may be expected, no great novelty or improvement in a fabric so ancient and long-practised as basket making; whilst the mats are rather noticeable for the introduction of new materials than for any signal beauty of workmanship, such as the Indians may fairly lay claim to. But, perhaps, straw and basket-work may be said to have attained its object, and to be incapable of great further improvement, without infringing the domain of more ductile materials. Had flax, hemp, and cotton remained unknown, had the use of wool and silk never occurred to man's invention, we might possibly at the present moment have worn straw shirts, of a texture as far superior to the finest Indian matting, as that matting is to the coarse coverings which gardeners use for their fruit trees, or, as the manufacturing enterprise of the European is superior to that of his Oriental brother.

Independently, therefore, of the intrinsic importance of the art of matting, and other contrivances of a like kind to which we have referred in the preceding article, they are interesting as having probably been the precursors of cotton and silk weaving, which have set up Jacquard looms and steam-engines, and, whilst they have given occupation to hundreds of thousands in the Old World, have been the means of extending commerce, and with it civilisation, amongst the most remote and unenlightened branches of the human family.

THE BEAVER OF THE ANDES.

(Suggested by a passage in Babbage's "Exposition of 1851.")

BY R. H. HORNE.

ALONG the cloud-wrapp'd line
Of granite giants chain'd beside the sea,
Whose craggy shoulders ever shine,
With snows that own not sunlight's empery,—
At lengthen'd intervals,
From fissures, caverns, or terrific halls,
There gushes forth a spring, descending swift
The ridges and plateaus, through chasm and rift.

The Chilian Cordilleras rear
Their fierce volcanic crowns on high,
And shoot their pinnacles within the sky—
Their points invisible from year to year;
But Nature's heart,
In scenes most savage, lofty, and apart,
Softening at times the fix'd decree,
Forgets not her maternity.

Behold! a spring comes down!
Bright Spirit of the Andes—liquid life,
To humanise the old Titanic frown.
Swiftly, with playful strife,
Yet gathering strength and substance, like a dream
Verging towards the awakening sense of home,
It hurries downwards in a stream
To join the South Pacific's foam.

But underneath, upon a broad plateau
Of the earth's loftiest solitudes,
Right in the stream's advancing flow
O'er porphyry rocks, and sands, and slate,
There came to dwell a labourer with his mate—
A Beaver, who by sudden floods
Was driven an exile from his camp below.

The mason, with a measuring eye,
And measuring pace, ran to and fro—
Perceived what strength would stem the force;
Not needing to reflect,
But settling all decisively,
To interrupt the current's course;—
Foresaw the structure, and effect.

The skilful, strong, industrious pair
Their work unceasing plied;
And bank, and trench, and slanting dam,
Wrought from masonic diagram,
Soon fortified each side;
And then with wise looks, but no sound,
The labouring pair swam round and round.

Meanwhile the melted snows and mists had fed
The stream above, increasing thus its speed;
The South Pacific was its destined bed:
But sudden eddies check
Its course, and cause a wreck
Of falling crag, and stone, and tangled weed;
Beside the slanting walls,
Banks, dams, through trench and gully thralls,
The mountain current glides,
Whirls round, extends, divides,
And falls!

Down through the black basaltic rocks,
Where earthquake shocks
Had many a ruined Karnak left,
Or Memphian tomb,
Sunk inwards to chaotic doom;
'Neath clear, vast, moveless skies
Of indigo in deepest dyes,
The scatter'd silver of the torrent flies.
Through sandstone rifts it spouts and pours,
Breaks larger way with heave and toss;
While broken rocks oft sparkle with the light
Of amethyst and topaz, golden ores,
And treasures never dimm'd by human eyes.
Now o'er a mound it leaps,
Athwart the greenstone steeps,
With course descending inland and across.

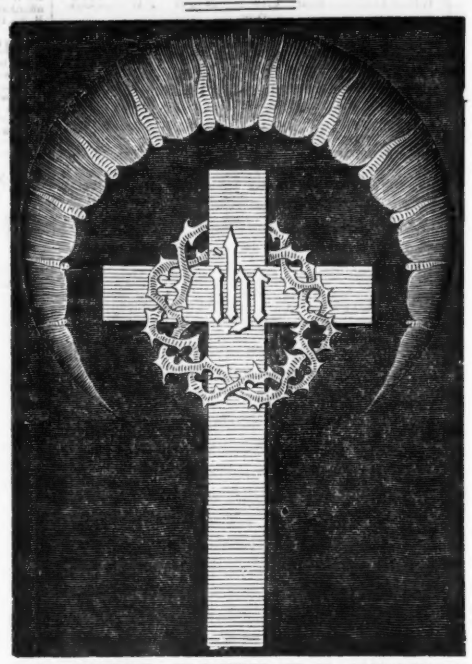
From ledge to ledge,
It rolls—and foams from edge to edge,
Beside the crags that moulder in grey salt,
Along vast tracks of fossil shells,
Where the lithe puma slinks and yells,
And wild swans sail along the high blue vault,
Like ships in dreams,
While after them the condor eagle screams.
Thence, winding 'midst the glaciers, and the steeps,
And sterile icy sweeps,
It runs below the "passes"—flying-bridges,
Above abysmal ridges,
That take the breath, and daze the aching sight;
Till, wandering with no aims—
No instinct tow'rds a lake, or distant sea,
Or cataract's headlong games,
It passes many a lava track,
With ironstone and with ashes black,
And many a sandy boundary
Whereon the gorgeous cactus hangs its head in flames;
Then seeks a lengthen'd slope
On that stupendous height,
And pours itself beside green waves of wheat
Growing in fields above the skylark's flight.
Descending thence, it meets the antelope,
Who, fainting with the heat,
Dips deep her anxious face
Within the fleeting silver—and its race
Seeks to delay with gently dallying hoof.

Now by declivities,
That, like inverted skies,
Stretch far away into pale space below,
The stream has reached the shadowy mountain base—
From the Pacific Ocean far aloof—
And through the valley leads its silvan chase:
Sweet blessings to the Indian's sun-scorch'd roof
It brings, and to his field perennial grace.

Seasons have pass'd; and villages have risen
Along its banks, and in its neighbourhood
Vineyards and fruit-trees, pasture, cooling wood;
And man hath labour'd in the soil, and thriven.
The mountain stream a humbler labourer's brain
Turn'd from its course, high on the Andes' chain,
Through rolling Pampas joins some tribute flood,
And finds another home in the Atlantic main.

ANDERSON'S VICTORIA CAR.

Among the novelties which strike us as worthy of notice in the carriage department of the Great Exhibition, is the Victoria Car of Mr. Anderson, of Elgin, N.B., which may be used either as a family car or as a gig; and so compactly is the arrangement of the shifting parts of this carriage contrived, that no one to see it as a gig would suppose it could in a few moments be transformed into its more useful form of a family car. It is of light appearance, and said to be of easy draught. The lamps are attached in front of the splash-board, instead of being fixed in sockets as usual, and the springs are constructed to meet the elongated form of a carriage when opened out into a family car.



GOLD EMBROIDERY.—BY LAMBERT AND CO., REGENT-STREET.

From amongst the specimens of gold embroidery, by Lambert and Co., of Regent-street, we select one of ecclesiastical character, the workmanship of which is entitled to rank with the highest productions of its class.

THE GREAT EXHIBITION.

(To the Editor of the ILLUSTRATED LONDON NEWS.)

ADELPHI, August 2 1851.

SIR,—You are no doubt conscious of the aid you have from time to time rendered in furthering the cause of the World's Great Industrial Show. My belief is, that Paxton's beautiful design would never have come to light but for the first public view of it which appeared in the ILLUSTRATED LONDON NEWS last year, ever since which time you have kept the ball in motion, and have suggested from time to time such alterations and improvements in the arrangements which you considered beneficial to the public at large. All the world is by this time aware of the continued exclusion of the British exhibitors from their own gorgeous display except on the same conditions as those adopted for the general public; except, indeed, in some few instances, in which the exhibitors have either put on a "bold front," or have friends at court. Now, if, instead of disregarding the solicitations of a large body of exhibitors, to be admitted to the Royal opening on the 1st of May, a prominent situation had been set apart for the British exhibitors on one side of the Transept, and for the foreign exhibitors on the other side of the Transept—a matter which should have claimed the first consideration of the Royal Commissioners—the continued agitation which is still going on among a most influential class of exhibitors would never have been heard of, and I trust that even at the eleventh and a half hour the Commissioners may see fit, in order to appease the angry feelings which animate the breasts of many who have contributed to the erection of the Building—who have purchased season-tickets for their families, have expended large sums in transporting their goods to the Building, and in fitting up their stalls for the reception of the same; and also of another most important class of exhibitors, who have spent their "all" in contributing to the world's industrial display—to redeem the mis-spent time, but which cannot be recalled, by having another Royal day, in the proceedings of which the exhibitors should take the most prominent part. I know of no better day than that which will necessarily be appointed for the distribution of the prizes. If this be done by the Commissioners in a spirit commensurate with the immense exertions of the exhibitors, the blot with which perhaps the greatest event of the world is at present stained may be effectually wiped out; and if, at some future time, another, even more gigantic, Exhibition should be proposed, the untiring energies of the sons of genius will be again roused to redoubled exertions in order to produce even a far more exalting spectacle than the brilliant and peaceful congregation of nations in 1851.

AN EXHIBITOR IN MANY SECTIONS, AND A SEASON-TICKET HOLDER.

TO CORRESPONDENTS.

S W Y D—Middlesex, on the east, is separated from Essex by the river Lea, part of its course being by Bow and Bromley, into the Thames

G W, Liverpool—The measurements of York Minster are 518 feet extreme length, by 241 feet extreme breadth; of Lincoln Cathedral, 505 feet by 242 feet

E B—The almshouses for poor French Protestants and their descendants, in Bath-street, City-road, was founded in 1718. It is one of the relics of the great emigration, after the revocation of the edict of Nantes. At one time no less than 230 refugees were sheltered here, but the number of inmates is now 54. (Weale's "London Exhibited.") See also a pamphlet entitled "Manifesto of the French Protestants," published in 1850

A T, Erfurt, Prussia—The information you need will be found in the "Penny Cyclopædia," article Great Britain. It would occupy more space than we can spare to reply to your eight questions, *seriatim*

E D E, Temple-bar—The story of the site of Apsley House having been granted by George II to an old Dettingen soldier for his apple-stall, re-granted by the Crown, and then claimed by the soldier's son, is, in the main, correct; it is quoted in the first edition of Cunningham's "London"

NAUTICUS, Dover—Scott, "the American Diver," accidentally hung himself on Waterloo Bridge, Jan 11, 1841

A SUBSCRIBER, Garstang—We cannot inform you

A J, Islington—The idea that the origin of Alpsies may be traced to "the lost ten tribes of Israel" is mentioned in Sir Thomas Browne's "Vulgar Errors." (See Browne's Works, Wilkins's edition, 1835, vol 3, p 287)

A SUBSCRIBER, Reading—The oft-quoted passage, commencing

"There is a tide in the affairs of man,"

is from Shakspeare's play of "Julius Cæsar," act 4, scene 3

B A, Durham—The quotation you refer to is—

"Loveliness
Needs not the aid of foreign ornament,
But is when unadorn'd adorn'd the most."

Thomson's "Seasons," Autumn, l. 211

SABRINA—The line *Fine* by degrees, and beautifully less,

(not *small*, as our Correspondent has misquoted it), is from Prior's "Henry and Emma"

MADEMOISELLE—The term "Blue-stocking," applied to a pedantic female, is stated to have originated with Mrs Stillingfleet, who constantly wore blue stockings, and whose company was highly prized in certain female assemblies, thence denominated "Blue-stocking Clubs"

W A I R—The longest day this year was June 22 (see the ILLUSTRATED LONDON ALMANACK). The longest day next year, being leap year, will be June 21. If the year was exactly 365 days in length, the longest day would always be June 21

A CORRESPONDENT, Waterford—Neither subject has appeared

WALLFLOWER—See Hudson's "Instructions for making a Will"

A LONDON MERCHANT, Dover—Under consideration

BEPPO, Cork—See Dickens's "Old Curiosity Shop"

J A, Ashford—The charge is distinctly stated in each Number

F S S, Hudderafield—There is no periodical exclusively devoted to cricket

E T R—The city of London is in the county of Middlesex

"FISH AND FIND THEM"—"Domesday Book" is kept in the Chapter-House, Westminster Abbey

H C A—See a "Treatise on Backgammon," published by Bell, Fleet-street

A CONSTANT READER—See Low's "Charities of London"

M M—The length of the Great Exhibition Building is 1848 feet

F H—Shepherd's electro-magnetic clock has been described in our Journal

F L S—The price of the ILLUSTRATED LONDON NEWS, vol. 18, is 21s

F W W, Cheltenham—The Great Exhibition is expected to close about the middle of October

I W B, Birmingham—see Mr Hope's work on "Ancient and Modern Costume

A B, Brookham—The Hospital for Skin Diseases is in New Bridge-street, Blackfriars, corner of Earl-street

G C—There is no fragment of Old St Paul's remaining, save a few monuments in the crypt of the present cathedral. The old and new cathedral site are not precisely the same

A D A—The Stereoscope is named from its property of presenting to the mind the perfect resemblance of solid objects

H M C, Georgia—All the volumes of the ILLUSTRATED LONDON NEWS may be had at 18s each, except vols 1 and 18, 21s each

AN OLD SUBSCRIBER, Rio de Janeiro—We are sorry not to be able to insert the Engraving

DECLINED—B R G, Nottingham; Voyageur, Manchester; A M F; Ignoramus; Napoleon; M E B

MENS—The verses are unsuitable for publication in our columns

C S R, Tetworth—The act of Parliament is imperative that no printing or writing shall be on the cover, except the address of the person to whom it is sent; but a newsagent is entitled to print his name and address on all covers he forwards by post. No papers were ever forwarded from our office wrapped in old newspapers

A G C S, Stockport—An old brass jetton of Nuremburg, struck by Hans Krawinkle, of no value

ZEBRA—The price of a shilling of Edward VI. is 2s 6d and upwards

STAMFORD—W Faulkner had better send the coin to Mr Webster, 17, Great Russell-street, Covent-garden, for the information required

ΕΛΕΚΤΡΟΝ, Kensington-gardens-terrace—See Francis's "Experiments in Electricity"

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THOMAS BOULTON'S NEEDLES.—These Needles have been celebrated for the last half-century, and are unsurpassed in excellence. They are manufactured of the best spring steel, highly-finished, eyes polished, and perfectly burnished drilled eyes. Sold in papers, and in every variety of fancy boxes and cases adapted for presents, by Owen, 98, Oxford-street; Millikin, 161, Strand; Looker, 42, Leadenhall-street, City; and by many drapers. "Thomas Boulton, manufacturer, London," on each paper.

THE TEETH.—A very curious invention connected with Dental Surgery has been introduced by Mr. HOWARD, of 17, George-street, Hanover-square; it is the introduction of an entirely NEW DESCRIPTION of ARTIFICIAL TEETH, fixed without springs, wires, or ligatures. They so perfectly resemble natural teeth as not to be distinguished from the originals by the closest observer. They will never change colour or decay, and will be found very superior to any teeth ever before used. This method does not require the extraction of roots, or any painful operation, and will support and preserve the teeth that are loose, and is guaranteed to restore articulation and mastication. The invention deserves the notice of the scientific, and is of importance to many persons, and those who are interested in it should avail themselves of Mr. Howard's skill as a Dentist

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NEW BALLAD, "HAPPINESS."—Just published, THOMAS BAKER'S last New Ballad, entitled "Happiness," price 2s, postage free. Also, by the same Composer, "GERALDINE," brilliant Mazurka for pianoforte, 2s.

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THE POPULAR SONG of the DAY, new edition, just issued—"TALK OF HIM THAT'S FAR AWA." Composed by THOMAS CHANTREY. Its great sale may be attributed to the elegance, simplicity, and originality of melody, which, once heard, literally haunts the imagination, while it is within the compass of every voice. The accompaniment (certainly a desideratum in a song) is in this most easy. Price 2s.

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METCALFE and CO.'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-brush searches thoroughly into the divisions, and cleanses them in the most extraordinary manner; hairs never come loose: 1s. Peculiarly penetrating Hair-brushes, with the durable unbleached Russia bristles, which will not soften like common hair. Improved Clothes-brush, that cleans harmlessly in one-third the time. An immense Stock of genuine unbleached Smyrna Sponges, at METCALFE, BINGLEY, and CO.'s only Establishment, 130B, Oxford-street, one door from Molles-street.—Metcalfe's Alkaline Tooth-Powder, 2s. per box.

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IF you require your FAMILY ARMS, send Name and County to the LINCOLN'S-INN HERALDIC OFFICE, Great Turnstile, Lincoln's Inn. Fee for search and sketch, 3s 6d, or postage stamps. Single crest engraved on stone, 8s 6d: crest on plate, spoons, &c, 4s 6d per dozen; arms with names, for books, £1 1s; arms of cities, colleges, &c., sketched, 3s 6d; monumental plates for churches. Address, HENRY SALT.

NICOLL'S PALETOTS for the SUMMER MONTHS.—New Paletôts, Mixed Paletôts, Silk and Gossamer Paletôts, also Nicholl's Paletôt d'Eté, which is pronounced to be a most effectual protection against the dust and heat of Summer, price One Guinea.

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CAUTION.—H. J. and D. Nicoll, Merchant Clothiers, Paletôt Patentees, &c., 114 to 120, Regent-street, and 22, Cornhill, alone manufacture and sell the above in London, and their name is woven into the lining of each garment. They have, however, Agents who sell for them in all parts of this kingdom and its Colonies.

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Morel, Brothers, 201, Piccadilly.
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Hedges and Butler, 155, Regent-street.
Hickson and Son, 73, Welbeck-street.
Wortley and Hanbury, 54, Upper Baker-street.
Wilmott and Co., corner of Fenchurch-street.
Wix and Sons, Leadenhall-street.
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And of the principal Italian warehousemen and grocers throughout the kingdom.

Sample hampers £1 each, containing an assortment, forwarded to any part of the kingdom on receipt of a post-office order for the amount. Price Lists forwarded, post free, on application to RITCHIE and M'CALL, 137, Houndsditch, London.

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THE LADIES' FRIEND.

ROWLANDS' AQUA D'ORO.—This is the most fragrant and refreshing Perfume ever yielded by the "Souls of Flowers." It retains its fresh and delightful odourousness for days. It is invigorating, gently stimulating, yet sedative: and is an unrivalled quintessential spirituous product. For fainting fits, fatigues of dancing, oppression from over-crowded rooms, or intense summer heats, its uses cannot be over-estimated. Price 3s 6d per bottle.—Sold by A. ROWLAND and SONS, 20, Hatton-garden, London; and by Chemists and Perfumers.

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FOR SALE.—A VENETIAN BLIND PLANING MACHINE, constructed to plane from 1-40th of an inch and upwards Price £20.—A PLANING MACHINE, constructed to plane Boards from ⅛ of an inch to 36 inches and 11 inches broad. Price £176.—A TOOL for SMOOTHING DECK PLANKS, Flooring Boards, Checking Base on Shifting of Rooms. Registered price £2. Apply to Mr. W. THOMSON, Shot's Ironworks, Edinburgh.

VISITORS to GUERNSEY.—J. CRAPP begs to call the attention of the Nobility and Gentry who visit this beautiful island to his famed Establishment for the sale of BOOTS, and SHOES of Guernsey make, which, for ease, fashion, and durability, cannot be surpassed Address, 18, Smith street, near the New Ground, on which the Royal Militia's Band perform every Monday evening

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OEFFENTLICHE BADE und WASCHANSTALTEN.—Das Comitté ladet alle Fremden die sich in London befinden ein das Modell einer solchen Anstalt, in Goulston-square, Whitechapel, zu besuchen, welches für Besucher täglich von 10 Uhr Morgens bis 4 Uhr Nachmittags, Sontags ausgenommen, offen steht. Eintrittpreis.

Menschenfreunde, Sachkundige Ingenieure, und alle die nur den Namen nach Bade und Waschhäuser kennen, werden dadurch in Stand gesetzt, selbst den grossen Nutzen solcher Institutionen zu beurtheilen, und werden zu gleicher Zeitmit dem dazu gehörigen Maschinen-Wesen bekannt gemacht, welches mit der dröstem Einfachheit, Billigkeit, und Effikazität betrieben wird.

Das Comitté bittet besonders dass Besuchende durchaus keine Geschenke den in der Anstalt Angestellten machen.

Unterzeichnet, auf Befehl des Comittés der Ausbreitung du Anstalten der Bade und Waschhäuser für die arbeitenden Classen,

GEORGE WOOLCOTT, Adjunct Secretair.

Versammlungs Saal des Comittés, 5, Exeter-hall, London, den 23 Juni, 1851.

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THE ROYAL VICTORIA PARASOL, patronised by her Majesty and the Duchess of Sutherland.—CHEEK and MARSH have the honour to submit to the nobility the above most elegant article which must supersede almost every other description. The principal Manufactory, at the West End, for Parasols of every description, Golden Perch 132, Oxford-street.

CHILDREN'S IRON COTS—4 feet long, 2 feet wide, moveable sides and pillars, castors, and brass vases—at 16s each; or, with a cocoa-nut fibre mattress, complete for a guinea.—T TRELOAR, Iron Bedstead and cocoa-nut fibre mattress manufacturer, 42, Ludgate-hill London.

REEVES' WATER COLOURS, prepared with a medium of pure wax in lieu of gum, which adds greatly to their permanency, brilliancy, and easy flowing qualities.

REEVES' pure Cumberland Lead DRAWING PENCILS.

Manufactory, 113, Cheapside, London.

COCKERELL & CO.'s BEST COALS ONLY, Purfleet Wharf, Earl-street, Blackfriars; Eaton Wharf, Lower Belgrave-place, Pimlico; and No. 1, Coal Exchange. Cash price, 21s per ton.

POWER-LOOM CARPETS, BRUSSELS and VELVET PILES.—The Patent Power-Loom BRUSSELS CARPETS, manufactured by BRIGHT and CO., are now offered in various qualities, and in great variety of designs. They are twenty per cent. cheaper than any other goods of equal quality offered to the public.

The Velvet Pile Carpets, manufactured by the same patent process, are of extraordinary beauty, and of the very first quality.

They are offered fully twenty-five per cent. below the price of goods of equal character.

The Patent Tapestries are an admirable and beautiful article for Curtains, Portieres, Furniture Coverings, &c.

The Power-loom Brussels, Velvet Piles, and Tapestries are well suited for foreign markets.

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THE PRICE of ARTIFICIAL TEETH.—Those designed and made by Mr. BURSEY, Dentist, of 10, Fitzroy-square, Regent's-Park, are very easy to wear: his charge for any number only 10s 6d per tooth—two for 30s. They are strongly made (the cheap and inferior kind are an endless expense), and for those about to travel the teeth are made fast in a way very secure, requiring no attention for years. Mr. B. sees patients every day from Eleven o'clock.

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Parcels of £3 sent throughout the Kingdom free of all railway carriage.

SAMPLES, which may be returned, SENT for inspection, on receipt of a London reference or money-order.

LISTS, with PRICES, sent POST-PAID.

FOOD, Class 3, No. 119, Exhibition.—The Analytical Sanitary Commission of the "Lancet" reports, "the whole of the forty-two samples of mustard purchased in various parts of London were adulterated."—See Lancet of March 22, 1851. The Lancet of June 14 reports of Dewar's brown mustard, that it "consists entirely of mustard, and is, therefore, perfectly genuine." "I have, with several friends at the club, fairly tried your mustard, and we pronounced the quality superior to any other as regards purity, flavour, and strength Reform Club, Pall-Mall, October 20, 1846. A. SOYER." T DEWAR'S MUSTARD is guaranteed to be genuine, made from the finest seed, without a particle of any other ingredient, possessing a peculiar fine flavour and great pungency. London wholesale agent—E. Lazenby and Son, 6, Edwards-street, Portman-square; and may be had of Messrs. Grignon, Suffolk-street, Pall-Mall; Neighbour and Son, 127, High Holborn; Graham, 37, Ludgate-hill; and all respectable grocers and Italian warehousemen. In packets and jars, 1s each; extra size, 2s.—Manufactory, Newcastle-on-Tyne.

JONES'S £4 4s. SILVER LEVER WATCHES, and £10 10s. GOLD LEVERS, at the Manufactory 338, Strand, opposite Somerset House, are warranted not to vary more than half a minute per week. The great reduction of price now added to all rivalry, either of the Swiss manufacturers or any other house, for those advertised at lower prices are foreign work. On receipt of a Post-office Order, payable to JOHN JONES, for £4 4s, one will be sent free. Jones's Sketch of Watchwork, free for 3d.

GRAND EXHIBITION of WATCHES, GOLD CHAINS, &c., at S. S. and J. W. BENSON'S MODEL CRYSTAL PALACE, 16, Cornhill.—Visitors to London will do well to call at this magnificent Establishment, and inspect Messrs. Benson's large and beautiful Stock of Gold and Silver Watches with highly-finished movements, four holes jewelled, rich gold dials, and every improvement, at £4 15s each. The same movements in silver cases, £2 15s each. Also, Benson's Stock of Patent Detached Gold Lever Watches, jewelled in eight and ten holes, gold or enamelled dials, double-backed gold cases, at £8 8s each Ditto, in silver cases, silver or enamelled dials, £3 10s each. Of the above Watches can be had in hunting cases for the extra charge of 15s and £2 2s gold and silver respectively. The Messrs. Benson have much enlarged the above premises, which is now their principal manufactory for Watches; and the above Watches can now be selected from sixty different patterns, at either of their Establishments, Nos. 16 and 63, Cornhill. A written warranty given with every Watch for two years, and one carriage free to any part of the United Kingdom, upon receipt of a Post-office or banker's order. A Gold Watch, with all the latest improvements, i.e. gold dial, jewelled in four holes, maintaining power, double-backed cases, &c., with fine gold chain, fitted complete, in morocco case, adapted for a present, price seven Guineas. Watches made expressly for India. Be particular—Nos. 16 and 63, Cornhill. No connexion with any other house of the same or similar name.

DU BARRY'S REVALENTA ARABICA FOOD,

The only natural, pleasant, and effectual remedy (without medicine, purging, inconvenience, or expense, as it saves fifty times its expense in other remedies) for nervous stomachic, intestinal, liver, and bilious compla

THE ILLUSTRATED LONDON NEWS.

SECOND SUPPLEMENT.

VOL. XIX.] SATURDAY, AUGUST 9, 1851. [GRATIS.

THE EXHIBITION FETES AT PARIS.

(From our own Correspondent.)

THE Exhibition *Fêtes* given by the City of Paris to the City of London and the Royal Commissioners, the Executive Committee, the Juries, and to a whole host of celebrities, French as well as English, have passed off with a degree of splendour seldom witnessed in the festivities of modern times. Nor has the satisfaction of the guests been less complete than the splendid hospitality of their entertainers. *Fête* succeeded *fête*, each more brilliant than its predecessor; and, for the first time in the international history of the two greatest nations in the world, there has been a manifestation of hospitality on the most princely scale, and a reciprocation of good feeling and kindly offices. France and England have shaken hands, and sworn themselves brothers, and France has given the civic dignitaries of London, and the officers of the Great Exhibition, a reception, which in former times, now happily passed away, would have been reserved for some great king or conqueror, and which it would have been thought absurd and extravagant, if not positively insane, to have wasted on such peaceful, unobtrusive, useful, and matter-of-fact persons, as Lord Mayor, Aldermen, traders, manufacturers, and the employers of labour. The world has much to learn; but there can be no doubt that it is growing wiser; and that, within the last fifteen or twenty years, it has been learning its lessons of peace and true virtue with more rapidity than in any previous period of history. It has begun to perceive, that, after all, work is the duty, and ought to be the pleasure, of great nations as well as of small individuals; and that fighting with each other is not by any means the business of Christian and civilised nations.

The hospitalities of the city of Paris were planned in the most complete and comprehensive manner. Each invited guest received through the intermission of M. Sallandrouze—a gentleman whose urbanity demands all praise—a ticket entitling him to pass free from London to Paris and back again, and an admission to such of the *fêtes* as were calculated for the accommodation of so large a number of persons. The *fêtes*, according to the plan laid down, comprised—first, a grand banquet, on Saturday evening, at the Hôtel de Ville, to which a portion only of the guests could be admitted; secondly, a concert, at a later hour of the same evening, to which the whole of the English guests were invited, including the wives of all those who were known to be so fortunate as to possess them. The *fêtes* on Sunday included an excursion to the splendid Château of Versailles, to witness all the fountains at play, a sight of which is considered one of the grandest things that can be offered to delight either a Frenchman or a foreigner. On Monday the *fête* was a visit to the President of the Republic at St. Cloud; on Tuesday, a grand ball at the Hôtel de Ville; and, on Wednesday, a review in the Champ de Mars, with a grand entertainment at the Opera in the evening. Each of these *fêtes* was perfect in its way; but, before describing them in succession, let us detail, as nearly as we can, the journey to Paris, and the incidents of the route.

THE DEPARTURE—FRIDAY.

The Commissioners' special train was fixed for nine o'clock on Friday morning, and at that hour, in the vicinity of the London-bridge station of the South-Eastern Railway, a continuous string of private and public carriages rattled up to the doors, and were successively stopped by policemen, who demanded whether the occupants were furnished with the blue-edged tickets denoting their right of entry to the privileged train. The tickets having been shown, the holders were speedily within the station. The special train stood hissing and ready to go, but the carriage doors were locked, and the whole platform was a swarm of eager, bustling people, rushing frantically about with luggage or searching for luggage, begging and praying inaccessible parties to open the carriage doors. Among the crowd, the City notabilities, of course, showed largely. The Lord Mayor, Aldermen, and Common Council arrived early at the station, and got as soon as possible into their places.

Nine o'clock sounded, and in a minute or two thereafter the train was under weigh. Not above half the people on the platform could possibly be taken, and the remnant were left for the next despatch. Meantime the first special glided smoothly on its way. Engine and carriages were alike new. The former was the manufacture of Mr. Crampton, and is one of the class for which it is said he has received the first prize at the Exhibition. The train consisted of thirty-two first-class carriages, and these the locomotive drew to Folkestone in about two hours and a quarter.

At Reigate station the train drew up to refresh the engine. At Tunbridge the process was repeated; after which it got rapidly to the hills above Folkestone, and caught a glimpse of the sea, studded with ships beating down Channel, or careering up with a pleasant drawing breeze. After a stoppage of a few moments at the station, the train was run on the incline, down which it deftly slipped, the passengers finding themselves in a moment int he midst of the old town; and then the harbour, with three or four white-funneled steamers smoking in the midst, and a handful of coasters decked out with colours, and the quays all crowded with spectators, kept in due order by boundary ropes—all these floated upon the eye. The next moment the occupants of the train were elbowing their way to the *Princess Helena*. There was no cheering or demonstration. In a few moments the decks and cabins of the steamer were invaded by upwards of 600 ladies and gentlemen. Meantime the luggage was being shipped—and such a pile! The sojourners for a week at Paris could not have been more amply provided if they had intended going round the world. The shower of carpet-bags, portmanteaus—ay, and huge boxes—appeared to be all but eternal; and the gallant captain was stamping indignantly on the paddle-box before the last precious receptacle for coats and ball-dresses had been tumbled down the forehold. That happy moment, however, at length arrived. Round went the paddles, and, clearing the jetty, the steamer began to rise and fall on a tumbling irregular swell, which gradually increased, producing what sailors call a "lumpy" sea, as the boat drew out from under the protection of Dungeness.

Whilst the events we have described as to the first train were going on, the scene at the London-bridge station, with the visitors left behind, was most animated. There was the ordinary daily express train to Paris ready to start; but the bearers of the favoured passes could not comprehend why they should be separated from the Lord Mayor's train. After considerable confusion, everybody was provided with a place; but the second train did not reach Folkestone before half-past twelve. The *Lord Warden* steamer was speedily crowded, and then the anxious question arose amongst the passengers, whether they should be in time for the Boulogne special train.

ARRIVAL AT BOULOGNE.

The passage was somewhat rough, and uncomfortable to the fairer portion of the travellers, as well as to the great bulk of the male visitors. But sea-sickness was soon forgotten, and all traces of it vanished when the long pier of Boulogne, crowded with spectators and decorated with flags, burst upon the longing eyes of the travellers.

Every exertion had been made by the authorities of Boulogne to render the reception worthy of the guests of the municipality of Paris. The quay was decorated with flags and garlands, mixed with escutcheons bearing appropriate mottoes. The whole population of the town had assembled, and every window which commanded a view of the landing-place was filled with ladies. At two o'clock the appearance of the steamer in sight of the port was announced to the expectant crowd by a signal gun from the vessel, which was answered by one at the pier-head, and in a short time after she ran alongside the jetty. M. Fontaine, the Mayor, M. Sorbier, the Sub-Prefect, M. Calley de Saint-Paul, one of the directors of the Boulogne Railway, with the different authorities of the port, were present to receive the visitors. The Lord Mayor, Sir John Musgrove, was the first who landed, and was followed by a number of the notabilities of the City, members of the Corporation, and others, and their first step on the soil of France was hailed with a hearty cheer by the assembled crowd, and with loud cries of "*Vive l'Angleterre!*" "*Vive le Lord Maire!*" Immediately on his reaching the pier, the Lord Mayor advanced towards the Mayor of Boulogne, who shook him heartily by the hand, and said, "Although your visit to this place has not been officially announced to me, I could not allow you to pass through the town without offering a welcome to the first magistrate of the first commercial city in the world, and telling him, in the name of my fellow-citizens, that we are grateful to him for having selected our port as his place of landing, thus pointing it out to the world as the connecting link between England and France." The Lord Mayor briefly, but courteously, thanked the Mayor for the reception he had given him, and then, amidst the renewed acclamations of the people, proceeded to the carriage which had been prepared for him, the remainder of the party taking their seats in carriages and omnibuses which had been provided by the railway company. The whole party then proceeded to the railway terminus, where a *déjeûner* had been prepared in a *salle* fitted up with great taste for the occasion. M. de Saint-Paul did the honours of the table. Numerous toasts were drunk with great enthusiasm. The Lord Mayor gave "Unity, peace, and concord between the two countries." The Sub-Prefect proposed "Union! May our guests, like us, preserve the remembrance of this visit." Mr. M'Gregor, one of the directors of the Dover Railway, proposed the health of M. de Saint-Paul, and expressed the thanks of the company for his courtesy. The Mayor of Boulogne gave a toast in welcome of the visitors; adding, that, although the reception they might meet with in Paris would be more brilliant, it could not be more cordial.

Amongst the company present at this banquet were M. Sallandrouze de Lamornaix, M. Charles Dupin, Lord Wharncliffe, Hon. J. Stuart Wortley, the Recorder of London, Lord Albemarle, &c. At about four o'clock, the first special train with the City authorities of London departed, leaving the passengers by the *Lord Warden* in possession of the remains of the banquet. The train, in less than two hours, arrived at

AMIENS.

Here the demonstrations of welcome on the part of the population were most marked and enthusiastic. The public walks were filled with spectators. The station was gaily decorated with flags, festoons, and flowers. All the civil and military authorities of the town were assembled in full dress. The National Guards, as well as the troops of the line, were under arms. A long table had been prepared in the middle of the station, covered with pastry, and filled with wine. This refreshment scarcely can be called a luncheon, it is entitled a *gouter*. M. Deberly, Adjoint, made a neat address, welcoming the guests from hospitable England; and the Lord Mayor briefly expressed his acknowledgements, proposing the cordial union between the two countries. When the band at the extremity of the table struck up the National Anthem, the enthusiasm of the French, particularly of the military, was singularly fervent. The ladies waved their handkerchiefs, the soldiers joined in the *vivas* of the officers; and it was some minutes before calm was restored, to enable the Lord Mayor to walk to the carriage through the excited populace. The first train reached the station of the Chemin du Nord at nine o'clock; the entire distance, exclusive of stoppages, having been accomplished in less than four hours.

ARRIVAL AT PARIS.

The Lord Mayor was received by M. Berger, the Prefect of the Seine, and was immediately conducted, with his suite, to the carriages of ceremonial provided by the city of Paris. The square at the extremity of the Rue Lafayette was filled with a dense mass of people, who loudly cheered the *cortège*. In the first train was a Chinese Mandarin, with his interpreter. Our Engraving, it will be perceived, contains the portrait of this visitor, whose presence in Paris has created such a sensation, and given rise to so many *piquant* articles in the *Charivari* and other journals. Before the second train reached the Parisian terminus it was eleven o'clock. Happy were those who had taken the precaution to look after their own luggage, as travellers ought; and happy, also, were those who had managed to secure beds beforehand, by letter or by the intermediation of friends and correspondents. Many a notability of London was baggageless and houseless in Paris on Friday night. The baggage was left behind at Boulogne, and almost every bed in every hotel was bespoke. Aldermen and Sheriffs, as we have heard, walked the streets, for want of accommodation; and still the trains kept pouring in visitors—not invited, but anxious to see the sights. The presence of these crowds tended to increase the difficulty of procuring beds; but, with some trouble and management, and occasionally an extra charge for house-room, the party, large as it was, managed to find house and home in one quarter of Paris or the other, and by midday on Saturday every one was accommodated. But as to the luggage, despite of the electric despatches hourly sent from the station to Amiens, and then expressed to Boulogne, it was Sunday before the bulk of the luggage had arrived. In order to be present at Saturday's Banquet and Concert, considerable purchases of clothes and linen had to be made. Nothing could be worse than the arrangements at the Boulogne Custom-house for the transport of the luggage to Paris; and it is a pity, as so much inconvenience was experienced, a portion of the passengers had not been sent on through Calais, so as to divide the pressure.

THE BANQUET AT THE HOTEL DE VILLE ON SATURDAY.

The banquet at the Hôtel de Ville commenced the series of festivities. No capital, perhaps, in Europe can boast of a civic building so well calculated as the Hôtel de Ville to receive distinguished guests with fitting magnificence; and the consciousness of possessing a building so unrivalled for festive purposes appears to constantly stimulate the corporate body of Paris to spare no expense or exertion to render each of its *fêtes* worthy of the admiration which the preceding one had excited.

The banquet was prepared in the noble gallery called the Salle des Fêtes, and nothing could be more gorgeous and dazzling than the *coup d'œil* which it presented. Two immense parallel tables ran down the full length of the room, the whole resplendent with plate, flowers, fruits, and ornaments. Three ranges of immense lustres of cut glass, with branches of the richest gilding, and remarkable for the beauty of their chiseling, flung down the blaze of nearly 3000 wax lights on the fairy scene below. Banners of all nations were suspended to the ceiling. About midway down the hall stood a pedestal, on which was placed a bust of the President of the Republic; and opposite to it another smaller room was also set out with tables, ornamented similarly to those in the Salle des Fêtes.

The hour originally fixed for dinner was half-past six; but, in consequence of M. Berger, the Prefect of the Seine, being detained at the Legislative Assembly by a discussion which concerned the city of Paris, the guests did not take their places until nearly a quarter-past seven. The Prefect was seated in the centre of the room, in front of the bust of the President, and on his right hand Monsignor Garibaldi, the Pope's Nuncio, and Lord Normanby, the British Ambassador. Opposite the Prefect was seated M. Dupin, the President of the Assembly, having on his right Lord Granville, Vice-President of the Royal Commission of the Great Exhibition, and on his left M. Baroche, Minister of Foreign Affairs. At the parallel table, exactly opposite the Prefect, was seated Sir W. Musgrove, Lord Mayor of London, having near him M. Lanquetin, President of the Municipal Council, and M. Carlier, the Prefect of Police. At about the same part of the *salle* were seated Lords Holland, Wharncliffe, Albemarle, and Ebrington; Sir T. Baring, Mr. C. Barry, Mr. Shepherd, Mr. W. Cubitt, Mr. Scott Russell, Mr. Edgar Bowring, Mr. C. W. Dilke, Dr. Charles Mackay, Mr. Francis Bennoch, John Bright, Esq., M.P., &c.; also, the Lord Mayor of Dublin, the Lord Provost of Glasgow; the Mayors of Manchester, Birmingham, and Leeds; Mr. Paxton, the originator of the Crystal Palace, and Mr. Fox, who carried the idea into execution in so short a time: in the same neighbourhood were also the members of the French Committee at London, MM. Sallandrouze, C. Dupin, De Lesseps, Héricart de Thury, A. Seguier, Hervé de Kergorlay, &c. At the tables near were seated MM. Léon Faucher, Fould, Chasseloup-Laubat, and other Ministers; the Vice-Presidents, Secretaries, and a number of the members of the Assembly; General Leflô, MM. Baze and De Panat, the quæstors; M. Portalis, President of the Court of Cassation; M. de Royer, Procureur-Général; M. Vivien, Vice-President of the Council of State; the diplomatic corps; the Archbishop of Paris; Marshal Excelmans, Grand Chancellor of the Legion of Honour; Generals Magnan, Carrelet, Levasseur, Guillabert, Rollin, Courtigny, Dulac, &c.; the members of the Municipal Council; the Presidents of the Chamber and Tribunal of Commerce; the members of the Prefecture of Police; the Mayors of several manufacturing towns of France, such as Lyons, Rheims, St. Quentin, Nantes, Lisle, Rouen, Marseilles, Valenciennes, &c.; MM. Villemain, Mignet, Walckenaer, &c. The President of the Republic was not present, the whole proceedings being considered of a private character between the two corporations.

The banquet was served with perfect regularity. Not less than 300 attendants were on duty. Behind the Lord Mayor stood three of his servants in alivery nearly covered with gold lace, and seemed to attract great attention. His Lordship and M. Berger were habited *en bourgeois*. During the repast, an orchestra placed in a gallery above played various pieces; amongst which might be distinguished the overture to "William Tell," parts of the "Muette," and selections from the "Armide" of Glück. The dinner, which was provided by M. Chevet, the Soyer of Paris, seemed to give great satisfaction to all.

DINER DE L'HOTEL DE VILLE A SERVIR LE 2 AOUT, 1851.

MENU GENERAL.

46 POTAGES.

Potages printaniers | Potages à la reine

30 RELEVES.

14 Turbots à la Hollandaise | 6 de 2 chapons à la Godard
5 Rosbifs à la royale | 3 Selles de mouton Anglais
2 Quartiers de venaison, sauce poivrade et gelée de groseilles.

18 GROSSES PIECES DE PATISSERIE.

9 Pièces montées représentant les fontaines variées de l'Exposition. | 9 Pièces montées en biscuits et autres sortes représentant dessujets variés.

Flancs. 30 GROSSES PIECES. Contre-flancs.

5 Gros saumons, sauce verte et sauce mayonnaise.
6 Gros buissons de coquillage homards entourés de crevettes et grosses écrevisses.
10 Pâtés foies gras en croûte
6 Jambons de Westphalie } avec attolets.
3 Galentines à la gelé }

84 ENTREES.

14 Entrées filets volailles en suprêmes | 14 Turbans filets de soles
10 Entrées caisses de foies à l'Indienne | 5 Krémouskys à la Polonaise
9 Petites bouchées à la purée de gibier | 9 Bastillons de jeunes poulets au salpicons
9 Chaudfroids perdreaux rouges
14 Entrées côtelettes jeune sanglier à la Villeroi

20 RÔTS.

10 Rôts de dindonneaux aux truffes | 10 Rôts variés de cailles

84 ENTREMETS.

10 Cops de Bordeaux | 10 Flageolets nouveaux, verts et blancs
10 Puddings de cabinet | 6 Timbales de macaroni
9 Gelées de fruits | 9 Crêmes vanille
5 Gâteaux Napolitains | 9 Gâteaux de Munich

144 HORS D'ŒUVRE ASSORTIS.

48 de melons, 48 de figues, 48 de variantes, olives, anchois, pickles, thon, beurre, &c.
9 Fromages glacés, 39 bols punch glacé à la Romaine, 9 fromages glacés.

DESSERT ET ORNEMENTS DE TABLE.

9 Surtouts garnis de 18 corbeilles de fruits, et 10 ananas, 18 corbeilles de fleurs. Candélabres de bronze.
92 Petites corbeilles de fruits—gros raisin blanc et noir, pêches, brugnons, abricots, prunes, poires, pommes.
60 Girandoles de bonbons assortis. | 60 Tambours petits fours variés.
20 ass. fromages—Chester, Roquefort, Macquelines.
900 tasses de café. | 900 bout eau de vie—très fine.
100 tasses de thé. | 12½ bout Marasquin.
Flûtes viennoises. Pains à dessert. Croquets à fromages.

180 maitres d'hôtel et servants.

VINS.

Bourgogne: Madère. Clos Vougeot. Romanée. Chambertin.
Bordeaux: Sherry. Haut Médoc Léoville. Château Margaux. Château Lafitte.
VIN DE DESSERT. Malaga. Paccoret.
CHAMPAGNE. Moët. De Montebello.

When at length the dessert was arrived at, the Prefect of the Seine proposed the health of the President of the Republic. When due honour had been paid to it he again rose, and spoke as follows:—

Gentlemen, I propose a toast to the noble guests of the city of Paris—to the Commissioners charged by the Queen of England to organise the Universal Exhibition—to Prince Albert, its illustrious President—to the Executive Committee—and to the International Jury whose skilful labours have given so much brilliancy to that imposing solemnity. (Loud applause.) Honour to the fruitful thought which has collected in the same palace the marvels of human intelligence! In such an Industrial Congress—a true Congress of Peace—nations, in mingling together, forget their ancient enmities, and, in presence of the masterpieces of all, refuse, for the future, to form but one single and immense family. The City of Paris will inscribe with pride the date of August 2, 1851, on the page of its municipal annals. It is for it a memorable day, of which its magistrate will always preserve a precious reminiscence. (Renewed applause.) Thanks, then, to our guests for having been pleased to take their seats at the banquet, so cordially offered: the Hôtel de Ville is proud to receive them under its roof. I drink to our guests; I drink to the illustrious representatives of the industrial genius of all nations, to

the Royal Commission of London, and to the International Jury. (Great cheering.)

When the applause had terminated, Lord Granville rose, and delivered in admirable French, though with a slight English accent, the following reply:—

Monsieur le Préfet and Gentlemen,—Permit me, in very indifferent French, but with heartfelt sincerity, to thank you, in the name of Prince Albert and of the Royal Commissioners, for the honour which you have just done them. As to me, gentlemen, the impressions of my youthful days, the bonds which I have since contracted, the remembrance which you have been pleased to preserve of him whose name I bear—(Loud applause)—and who devoted so many years in cementing the union between England and your lovely France, which he had learned to respect and to love as a second country of his own—(Renewed applause)—all this, gentlemen, causes me to feel at the same time exultation and embarrassment at having the honour, so little merited by me, of being the organ of the Commissioners before this brilliant assemblage, at a *fête*, of which the magnificence is only equalled by the cordiality of your reception. (Loud approbation.) The desire had caused itself to be felt in England to attempt there one of those grand National Exhibitions which had so well succeeded in France, and which had been marked by such useful results. Prince Albert had thought that that idea could be enlarged and its advantages extended, if, at a moment when all countries were drawn closer together by the progress of science, and by the spread of education, they were invited to exhibit together their products, so varied in character. It appeared to him that such an Exhibition would serve to mark the progress of civilisation in its present state; and that, whilst it taught us to render thanks to the Creator of all things for the benefits with which He loaded us, it would also prove to us how much the common happiness could be increased by the union not merely of individuals, but of nations. I am specially charged by Prince Albert, as well as by my colleagues in the Commission, to thank Prince Louis Napoleon and his Government for their most ready co-operation, for the sage and enlightened measures which they adopted for the purpose of dissipating the prejudices which might still arise, and for the choice which they made of the persons who have aided in the execution of the plan with so much skill and conciliation. (Cheers.) We never entertained the pretension of getting up an English Exhibition of the industry of the world; but we considered it as an immense honour to be able to offer to other nations the means of displaying their own exhibitions as integral parts of that great work. (Loud applause.) Gentlemen, we have also to thank the French exhibitors for the splendour and elegance which they have imparted to the Exhibition by their products. They have more than confirmed their ancient reputation for the invention and good taste which prevail in the execution of their manufactured goods. I trust that the sacrifices of time and money, which they have made, will not be altogether lost to them, even in a commercial point of view. I hope, also, that they will not feel any jealousy, if we, on our side, profit in some degree by the lessons which they have given us. (Long-continued applause.)

Our thanks are due above all to those men, so distinguished in sciences, arts, and manufactures, whom France sent over to us as members of the jury. Our organisation, as a voluntary association, caused us to lay down rules which were contrary to their old experience as French jurymen. They did not, however, cease for a moment to fulfil their laborious duties. No opinion was rejected—everything was freely and frankly discussed and voted; and it was frequently the French members of the jury who pointed out the merits of the exhibitions of other nations. At the termination of a labour of seven or eight hours a day, for the space of two months, they separated from their colleagues in the most perfect harmony, and have left in England sentiments of respect and kindly feeling. (Prolonged applause.)

Permit me, gentlemen, to say a word to you of the visitors whom France sent over to us to examine the Exhibition. Amongst them, there were some of the most illustrious of your statesmen, of your men of letters, of your military men; there were representatives of those names, which, since the middle ages, have added lustre to the history of France and of Europe; there were also some of the burgher class, which has so much advanced the prosperity of your nation; and there was a portion of your workmen, so remarkable for their intelligence; and even some of your peasants, so laborious in their habits. All, gentlemen, in different degrees, have exhibited that intelligent curiosity, that supple and lively character, that good humour and courtesy, which so markedly distinguish the inhabitants of France. (Loud applause.)

For a great length of time the distinguished men of the two countries had known how to appreciate reciprocally the merits of their neighbours on the other side of the Channel: but, as to the English people, during long ages, it was able to know nothing of the French, except their bravery and military genius. At the end of six-and-thirty years of peace, the Exhibition has furnished an opportunity to every class of my countrymen to examine close at hand the moral and intellectual qualities which render Frenchmen so distinguished in the arts of peace. (Prolonged applause.) An enormous, an unexampled step has been effected this year in the destruction of national prejudices and antipathies. (Renewed applause.)

I ought to apologise to you, gentlemen, for so long trespassing on your patience. ("No, no," and applause.) I thank you from the bottom of my heart for the kind attention which you have accorded me, and I ask your permission to drink in a glass of this wine—one of the products, so delicious, of your country (Laughter and applause)—to the political, social, and commercial prosperity of the city of Paris. (Great cheering.)

The loudest applause not only followed the delivery of this reply, but continued for several minutes after. When silence was re-established, M. Lanquetin, the President of the Municipal Council of Paris, rose and said:—

Gentlemen,—I ought, perhaps, to leave you under the charms of the eloquent words which you have just heard; but you will pardon me for yielding to the sentiment of gratitude with which they inspire me, and for coming forward in the name of the municipal corporation of Paris, to thank Lord Granville for having added to the *éclat* of this *fête* by a speech which explains so perfectly its object. But the honour of finding myself seated by the side of the Lord Mayor of London imposes on me a duty which I will attempt to fulfil. The presence of the Lord Mayor of London at the Hôtel de Ville of Paris, is not only a fact without example, but is an event which will serve as an epoch in future times, since it will efface the last remaining traces of those prejudices which war has so long maintained between two nations fully capable of esteeming each other. (Cheers.) Two capitals, which are united together by the stores of intelligence which they contain, will henceforward continue their march at the head of civilisation with so much the more rapidity and success, that they will be the more firmly united. It is to contribute to that union, that I come, in the name of the city of Paris, to propose to you a toast to the Lord Mayor and City of London. To the Lord Mayor, that municipal magistrate, so worthy, so revered, so powerful to do good! To the City of London! To the rich and immense capital of the United Kingdom of Great Britain! To the great and noble rival of Paris, honour and gratitude! Honour—for it has the first realised the grand idea of the Exhibition of the products of universal Industry! For it has thus procured the triumph of the sentiment of a noble and enlarged emulation over that of egotism! Honour and gratitude; for it has shown itself grand and generous in establishing a splendid arena for that pacific struggle, and in offering the most gracious hospitality to the sages of industrial science, who are called on to bestow crowns of honour on the most deserving. We entertain the most profound conviction, that the city of Paris, in every part, so honourably situated in the industrial world, applauds without the slightest reserve this *fête* offered in its name, in its Municipal Palace, to the honourable members of this great Jury, and to the most notable representatives of the Industry of all Nations. It felicitates itself on our having invited to this festive meeting the Mayors of the principal manufacturing towns of France and England, in the presence of our great French dignitaries, of the diplomatic body, and of the high personages of England, who have most contributed to realise that grand work, the Exhibition. The city of Paris is above all happy at the presence of the Lord Mayor of London at this solemnity, of which it will always preserve an ineffaceable remembrance. To the city of London and its Municipal Corporation! (Loud applause.)

The Lord Mayor of London made the following reply:—

Monsieur le Prefect of the Seine, and my Lords and Gentlemen,—I regret very much that I am not able to address you in your own language, because I feel how imperfectly I shall be able to respond to the observations which have been made by the hon. gentleman who has just addressed you. But, after the very eloquent and impressive address of my Lord Granville, on the subject of this international Exhibition, it is quite unnecessary for me to advert further to that subject, I cannot feel otherwise than deeply sensible of the honour of being present at this grand banquet, and I cannot but feel a great gratification that it should have remained for the chief magistrate of the city of London, in the year 1851, for the first time in the history of France and in the history of England, to pay a visit to the Prefect of the Seine. (Loud cheers.) Gentlemen, I may venture to say to you, on behalf of the municipal authorities of the city of London, that they have always felt an anxious desire to co-operate with all those who have manifested a deep interest in this Exhibition, because they saw that the result was likely to produce, not only in this country, but in all the countries of Europe, peace, unity, and concord. (Applause.) It is with these feelings that I can affirm, with the concurrence not only of the citizens of London, but of all the English people, that I cordially rejoice at this very interesting event—(Cheers)—and at the opportunity which has been afforded them of giving their assistance in carrying out that great work. And although I am speaking in the presence of my own brethren and colleagues, I am not unmindful that I am also heard by other members of municipal authorities, and by the commissioners and representatives of other countries in Europe, who, I am sure, concur with me in these opinions. (Hear, hear.) I terminate these observations by thanking you, in behalf of the City of London, for the honour which in my person has been conferred on them; and I conclude by proposing as a toast, "The Prefect of the Seine, and prosperity to the city of Paris." (Loud applause.)

Just as the cheering was about to die definitively away, Mr. Francis Bennoch, a member of the Common Council of London, gave the word to drink the toast with three times three, in the English fashion, which was effected to the great amusement of the French portion of the company. Some of the guests then proceeded to the apartments of the Prefect to take coffee, whilst others went to witness the representation of the "Médecin malgré lui" of Molière, played by the actors of the Comédie Français. A temporary theatre had been erected in the ancient Salle du Trône; and by the time the banquet had terminated, the benches were completely occupied by elegantly dressed ladies, not less than 4000 invitations having been issued for the *soirée*. The arrival of the vast number of carriages required for so great an assemblage was effected without the slightest disorder; for, as the Salle St. Jean had served as the entrance for the dinner-guests, so the small hall at the south-western corner was set apart for the reception of those having an invitation for the evening. At last the piece commenced, and Mdlle. Augustine Brohan, Mdlle. Denain, and Monrose, Delaunay, and Got, excited great laughter; and more, perhaps, amongst the English portion of the audieuce than the rest.

It is unnecessary to state, that the magnificent rooms composing what is called the Prefect's apartment were thrown open to the guests, and that ices, *sorbets*, and other refreshments were distributed, as usual, in abundance during the evening. We should, however, regret not to mention that the Court of Louis XIV was boarded over and transformed into a sort of open conservatory, a fountain, ornamented with shrubs and flowers, being substituted for the statue which usually stands in the centre. The effect of this transformation was charming.

THE CONCERT ON SATURDAY EVENING.

A musical mission to the French capital would be, at any time, eminently suggestive and replete with isterest; but, connected as the present inquiry has been with the Exhibition *fêtes* of the city of Paris, no little amount of curiosity existed amongst amateurs, to learn in what manner the hospitable hosts would seek to amuse their London visitors with melodious strains. The duties of your musical correspondent are confined within narrow limits, and he leaves to your special commissioners the task of describing the rush and confusion at the London-bridge station on Friday, the embarkation in the three steamers at Folkestone, the landing at Boulogne, the railroad banquet at the station, the departure of the Lord Mayor's special train for Paris, the *gouter* or light luncheon provided at Amiens, the arrival at the terminus of the *Chemin du Nord*, having completed the transit in four hours from Boulogne to Paris, the hunt for the luggage, and the *bivouac* of forlorn dames and dismal travellers on the rails, amidst piles of packages, whilst waiting for every fresh train to come up, the despair of the majority at two in the morning at having to go to their respective quarters without a *sac de nuit*, much less a trunk, the dreadful scenes during the whole of Saturday at the station whilst electric dispatches were in vain forwarded to the Boulogne authorities to send up the missing baggage; all these, and divers other eventful scenes, will have filled the columns of the journals, but it is not within my department, albeit a personal sufferer, to dilate on the manifold contrarieties of this civic campaign to the Gallic territory. Still, I might be able to furnish a few notes about the missing hat of the Lord Mayor, and about his horror at being deprived of his civic crown. I might say something touching of the enormous difficulties of our city dignitaries in providing themselves with ready-made suits of clothes, to appear at the banquet at the Hôtel de Ville, there not being any tailor who could fit Alderman Wire (Louis Blanc being in London), and no Parisian Moses and Co. could accommodate Alderman Humphrey (Caussidière being also in exile). Doubtless, the fate of the citizen of Candlewick, who was hoaxed into a masquerade dress, under the pretext that he ought to appear at the banquet in a full court suit of the time of Louis XVIII., will have been made known. However, it is time to be at the concert, given after Saturday's banquet at the Hôtel de Ville, and my narrative of things musical begins as late as eleven o'clock, for tables had not been cleared and the orchestra got ready before that hour.

The musical readers of the ILLUSTRATED LONDON NEWS are doubtless aware, that the present month is the dullest in the year for Parisian amusements. The season here is from October to the end of May, and from June to the autumn the great singers are away on leave of absence. Viardot and Alboni, of the "Opéra de la Nation," are at the two London opera-houses; M. Roger is in Germany; the "Théâtre des Italiens" is shut; the "Conservatoire" concerts have long ended; the grand musical performances of the "Philharmonic Society," under the direction of the gifted Berlioz; the St. Cécile concerts, the classical *chambre matinées* and *soirées*, the public and the private entertainments of the roving speculators—all are over. Little was therefore left to be done, except the resources of the military bands; but the spirit of the managers of the *fête*, nothing daunted by the inopportune period, prompted the happy notion of resuscitating the famed Conservatoire concerts, in order to afford English amateurs a notion of French orchestral execution and of choral singing. We have had, therefore, a Conservatoire programme executed under M. Girard's direction, only that it was considerably lengthened, the monster bills of London, no doubt, having been quoted as evidence of our voracious musical appetites. But the fates were untoward. After a banquet of gigantic proportions, appropriately followed by the "Médecin malgré lui" of Molière, played by the company of the Théâtre Français, to expect that a concert commencing after eleven o'clock, and ending at half-past one in the morning, could be sat out, would, indeed, have been unreasonable. The conductor was evidently vexed at the lateness of the hour of beginning, but his forces seemed resolved that there should be a good notion entertained of their capabilities, for the opening chorus from Rossini's "Siege of Corinth" (a work well worthy of being produced in London) was spiritedly sung. As at the Conservatoire, the lady choralists were dressed in white, and the gentlemen in black, some of the principals of the Grand Opera joining in the choruses. The "Oberon" overture was vigorously attacked, and created quite a sensation: there is more delicacy in the undercurrent of instrumentation than at our Philharmonic concerts; but I prefer Costa's energetic taking of the last movement to Girard's cold, mechanical beat. After the old-fashioned and dreamy chorus from Rameau's "Castor and Pollux"—not very smoothly done, by the way, the defective intonation being remarked—we had a slashing reading of Rossini's "Gazza Ladra" overture; the witty passages for the wood band, the brilliant phrases for the stringed, the military rolls of the side-drums, the pomp of the brass, all the *finesse*, fire, and ideality of this admirable conception, were wonderfully developed. After a portion of Beethoven's "Ruins of Athens," the first part terminated, and there was an immense retreat of visitors. The second act began with Handel's chorus from "Judas Maccabeus," "See the conquering hero comes" ("Chantons, chantons victoire"). To whom this pœan was addressed, became a subject of much discussion. Some pretended that it was to the Lord Mayor; others argued that it must have been to Mr. Bright; some thought that it was to Mr. Paxton; then it was ascribed to Mr. Fox as the man of iron, if not the Iron Duke; again, Mr. Alderman Salomons was quoted, only he has not yet been admitted in the House of Commons. A French *feuilletonist* maintained that the hero must be Sir John Rennie, on account of London Bridge, but I am satisfied that the "Conquering Hero" meant was Mr. Wylde, who has raised the "Globe," and who was present wearing his order of the Legion of Honour, given him by Louis Philippe. After Handel's chorus was the treat of the night, Beethoven's Septuor, Op. 20 in E flat major. This great work, the *ne plus ultra* of chamber compositions, was originally written for violin, alto (viola), horn, clarionet, bassoon, violoncello, and contra-basso. Hummel arranged it for the piano, flute, and violoncello; Czerny has arranged the Septuor as a pianoforte duet for four hands; Liszt, more hardy still, has reduced its proportions to a pianoforte solo, and, as he plays it, the instruments of the original score are scarcely missed. We have even heard of this Septuor being adapted for two guitars; but of all the arrangements known of this Septuor, nothing can be more wondrously exciting than its interpretation by the Conservatoire band. All the violins, all the tenors, all the violoncelli, all the contrabassi play, whilst the parts for the clarionets, horns, and bassoons are doubled. The effect is electrical; happy were the amateurs who remained to hear this prodigious execution—to listen to the heart-captivating strains of the slow movements, to be moved and excited by the soul-stirring passages of the *thême varié* with its brilliant variations. It was the late Habeneck, so many years the conductor of the Conservatoire concerts, of which he was the founder, who first trained the players for this matchless specimen of instrumental imagery; and the traditions of his fiery style have not yet been lost. The wild savage chorus of "Scyths," from Glück's "Iphigenia," followed: then came the final movement of Beethoven's Symphony in A; and the concert was finished with the chorus, "The heavens are telling," from Haydn's "Creation." Thus, as is usual with the Conservatoire concerts, there was no solo singing; the only departure from their custom being, that there was no solo instrumentalist and no complete symphony. It is much to be regretted that the hour of beginning was so late, and that, *during* the execution, refreshments were distributed—distracting the attention of the amateurs; but an authority told me, that it was in accordance with English customs to interrupt the music, so we must be content with the intended politeness, if we cannot subscribe to the historical accuracy of the givers of the *fêtes*.

THE TRIP TO VERSAILLES ON SUNDAY.

The Sunday's visit to Versailles was not without its vicissitudes. The lion of the *fête*, the Lord Mayor, arrived so late, that even the frigid Chinaman, who had been as much stared at as the Lord Mayor, was out of patience, and gave himself an extra fanning. The curious in natural history are aware that the Arabs in the desert watch with intense anxiety the descent of birds, because where they fall there is a chance of water. The experienced travellers who were with the Mayor at Versailles followed him through all the mazes of the grounds, admired, like his Lordship, the playing of the hidden military bands, as well as of the fountains, in the fond expectation that where a Mayor would stop, there would food for the inward man be found. But, alas for all human hopes, the Mayor was an unlucky bird for the London Arabs; there was no *buffet*—no refreshment room—not even the ghost of an Amiens *gouter*, in the way of cakes and champagne. The Mayor, after he had done with the troubled waters, disappeared by a military manœuvre of a flank march, and a gate of iron shut out the aspirants for a feed, leaving only the resources of a small *cabaret*, with stale sponge cakes, wishy washy table beer, or red ink *ordinaire*. The retreat of the citizens by the left and right banks of the Seine railroad was disastrous, and the nearest houses to the station were besieged for dinner, the knowing pioneers, however, seeking for the lively and hospitable *Chaumière*, where a good *cuisine* can be found.

THE PRESIDENT'S FETE AT ST. CLOUD ON MONDAY.

Monday's music at St. Cloud was very delightful—invisible bands of music being heard amongst the trees, and their charming playing, combined with the murmuring of the waters, and the presence of a serene sunny sky, with the feeling of a balmy atmosphere, formed a most delicious *ensemble*. When one of the bands was executing the music of Boieldieu's "Dame Blanche," in which the touching melody of "Robin Adair" is introduced, associations of bygone days were evidently presenting themselves to the devoted Royalist, to the staunch Imperialist, and to the steadfast Orleanist. The locality to each adherent of a fallen banner was replete with reminiscences. As we saw the Pope's Internuncio walking in the grounds, and looked upon the Archbishop of Paris and divers Bishops promenading with their attendant priests—as we gazed upon the myriads of stars, orders, crosses, ribbons, and decorations that were exhibited, as we regarded the line of Cuirassiers in the gilded saloons of ceremonial—doubts were raised in the mind, if we were enjoying ourselves under the Republic; and this reflection brings me to mention a very remarkable fact. From Boulogne, on Friday, to the hour I write, I have never heard the "Marseillaise," nor even a whistle from a *gamin* of the "Chant des Girondins." But I heard our National Anthem, at Boulogne, cheered tremendously. I was struck with amazement at the enthusiasm with which it was received at Amiens by the National Guards, the officers of the line, and by the population; and, at St. Cloud, yesterday, the sensation of "God save the Queen" was no less marked on the part of the French auditory. Has this demonstration, then, been simply an act of politeness towards us, or was there something of a deeper emotion in the Gallic heart, at the display of enthusiasm for our monarchical air? Having nothing to do with politics, I shall not attempt to reply to these queries—I state the fact, your readers may draw their own conclusions.

The *fête* began at three o'clock, and terminated at dusk. At five o'clock the Lord Mayor was received in the gardens by the President of the Republic. The Prince had promenaded through the grounds with the Marchioness of Normanby on his arm, and a long suite, the entire afternoon, doing the honours of the Palace with much grace and affability. The invitations had been liberally extended to all the chief civil and military authorities as well as to the foreign visitors. The banquet in the Orangery was attended with great confusion, owing to the rush of subaltern officers, who seemed little disposed to imitate the polite bearing of the host towards strangers.

THE GRAND OPERA ON MONDAY NIGHT.

I was present at the 103rd representation of Meyerbeer's "Prophète," on Monday night, at the Grand Opera. Again hearing this magnificent work, caused me to regret that the curtailments in the Royal Italian Opera have been so injudiciously and remorselessly done. I allude particularly to the end of the first act, and to the cuts in the trio in the tent scence, a piece which creates here always an immense effect. We are also a long way behind in our dance arrangements in this opera. If only to see the skating scene here, Paris is worthy of a visit; so exquisite are the groupings, so perfect the *ensemble*. On the other hand, we beat the French execution in orchestral and choral points, with the exception of artistic delicacy and quality, in which French *artistes* cannot be rivalled. Of the new tenor, Chapuis, in *Jean of Leyden*, nothing can be favourably written. Mdlle. Masson's *Fidès* is a sorry substitute for Viardot; but if the representatives of the three Anabaptists in London could witness the three actors here, a very different effect might be drawn from these ill-used parts at Covent Garden. Mdme. Ugalde has returned to the Opéra Comique—a theatre she ought never to leave. The third lyric theatre is in active progress and will be opened in September. The hopes of the Grand Opera are on Scribe and Halèvy's "Wandering Jew," for which the decorations are preparing. As regards Gounod, the commission he has received to write a five-act opera, will suffice to show that he has made a real artistic impression, if not a financial one, by his "Sapho." Great exertions are making to urge Meyerbeer to hasten his "Africaine;" but the Berlin composer will take his time, as he did with the "Huguenots" and "Prophète," only he must recollect that he has not the same time before him at his age, if he means to give his own traditions for the execution of his new work.

FETE ON TUESDAY AT THE BRITISH EMBASSY.

ONE of the most delightful of the entertainments given in Paris was the *fête champêtre* (as it may be termed) held at the British Embassy, in the Rue St. Honoré, on Tuesday afternoon. The invitations—amounting to many hundreds—stated that the Ambassador of England and the Marchioness of Normanby would be "at home" that day, from three to six o'clock. Scarcely had the former hour struck when several of the *invités* presented themselves; and the arrivals thence until six o'clock were incessant. On arriving in the elegant *salons* of the Embassy, the guests were received by his Excellency, by whom they were in due form presented to the Marchioness of Normanby. By a quarter to 4 o'clock the receptions were so numerous, that the visitors, led by the noble hosts, repaired to the beautifully ornamented lawn of the edifice, at one extremity of which was located an excellent military band. By

SUPPLEMENT ILLUSTRATED LONDON NEWS

a quarter past four o'clock, the lawn and alleys were crowded with the *élite* of Parisian society, in addition to the foreigners of note for the moment in the French capital. Nothing could be more charming and brilliant than the *toilettes* of the ladies, and many of the guests wore their orders and decorations.

Several *buffets* were laid out in the interior of the building, accessible from the gardens through parterres of flowers. These *buffets* were served in profusion with all the delicacies of the season, and with the finest and most rare products of the French, Spanish, Portuguese, and German vineyards. At six o'clock the company commenced a reluctan retreat.

Amongst the distinguished visitors filling the Embassy and the gardens were the President of the Republic, his aunt, the Princess Stéphanie, Prince Paul of Wirtemberg, Prince Poniatowski Prince Murat, Prince Lievestein, Monsignor Garibaldi (Nuncio of his Holiness the Pope), several of the French Ministers, including M. and Mdme. Léon Faucher, the Prefect of the Seine (M. Berger), the Governor of the Bank of France (Count d'Argout), the Marquis of Hertford, Earl Granville, Lady Augusta Hallyburton, Lord Frederick Hallyburton, the Misses Kennedy Erskine, Lord Ebrington, Lord Albemarle, Lord and Lady Wharncliffe, the Hon. James Stuart Wortley and Lady, Lord and Lady Gray of Gray, Lord Dunkillin, the Hon. E. Phipps, the Hon. Spencer Cowper, the Hon. Lady Dering and Miss Hamilton, General Sir John Burgoyne, Captain Stopford Claremont, Captain Stretfield and Mr. Lumley (1st and 2d Life Guards), General Carrilet, General Roguet, Viscount Persigny; MM. Estanlan, Fleury, and Bacciochi; Major Nicholson, Drs. Olliffe and Sutherland, Mr. Graham Vivian, Mr. Ricardo, Mr. Bright, M.P., Mr. Fitzroy, M.P., Mr. Shepherd (Chairman of the East India Company), Mrs. and Miss Shepherd, Mr. Hankey (Governor of the Bank of England) and Lady, Sir Anthony Perier, Mr. Brown, M.P., Mr. and Mrs. Woolaston Blake; the Austrian, Russian, Prussian, Danish, Swedish, Bavarian, Hanoverian, Baden, and Bohemian Ministers and their ladies; the Count de Thomar, M. Santa Cruz, the Hon. W. Stuart, the Hon. Richard Edwardes, Mr. Paget, Mr. and Mrs. Brinsley Sheridan, the Lord Mayor of London; Aldermen Salomons, Humphery, Wire, Wilson, &c.; Mr. W. Cubitt (engineer), the Sheriffs of London elect, M. and Mdme. Sallandrouze, Mr. Pickford, (British Consul at Paris), the Lord Provost of Aberdeen, the Sheriffs of Glasgow and Ross-shire, the Mayors of Manchester and Bolton, &c.

THE BALL AT THE HOTEL DE VILLE, ON TUESDAY NIGHT.

The night was devoted to the great ball at the Hôtel de Ville, for which a great deal of preparation had been made. Most of the decorations employed on the night of the banquet and concert remained as they were, with many additional arrangements. Enormous vases of richest porcelain, filled with the choicest flowers of France, lined the magnificent marble staircase, and filled every niche along the vast halls and throughout the splendid *salons* of reception. At intervals along the interminable corridors, and on the landings of the staircases, gigantic candelabra of or moulu, exquisitely ornamented, and resplendent with wax tapers, threw a softened brilliancy over the flowers, the statues, the fountains, and the gay visitors, which could not have been given by the most powerful gas lights. The dancing was confined to the great state saloon, which had been previously the scene of the banquet. The banners of many nations still floated gaily above the heads of the company; the wreaths of brightest flowers fresh from the *parterres* revelled in the light of myriads of tapers. The band was placed in the orchestra made on the occasion of the concert. At nine o'clock the company began to throng together, and by soon after ten there was little room to spare in the principal *salons*. It is said that 8000 invitations were issued, and most assuredly there must have been that number in the Hôtel de Ville between ten and eleven o'clock. At the latter hour the President arrived and walked round the suite of rooms with the Marchioness of Normanby, followed closely by the British Ambassador, the Lord Mayor, the Ambassadors of other Courts, Lord Gough, and several of our aldermen, and a number of French officials. It was with the utmost difficulty that way could be cleared for the party, so densely packed was the assemblage, by whom the Prince appeared to be cordially welcomed. The heat in most of the apartments was insupportable, a very few of the lofty windows having been left open, so that it was impossible to remain long in them, and the ebb and flow of the bodies to and from the great central court for fresh air was continuous. This court had been arranged with great taste as a flower garden; a fountain was playing in the centre amidst a mass of beautiful foliage, whilst around the exterior were placed benches, covered with silk damask, huge candelabra, and outside all, long rows of the most delicate flowering plants, both native and exotic. The freshness and quietude of this pleasant retreat contrasted most agreeably with the noisy and heated scenes above; its stillness was broken by the splashing of the fountain, and the soft strains of distant music and many voices. Thither, amongst others, Prince Louis strolled, accompanied by one or two of his friends, and chatted with some of the English gentlemen, evidently enjoying as much as any one the agreeable freshness of the spot.

In the various *salons*, gay as were the dresses of the French, both civil and *militaire*, the chief attraction seemed to be the court costume worn by several of our countrymen, and the military dress of some officers, the simple richness of which contrasted favourably with the gaudy finery and tinsel decorations of the French generals. Amongst the Parisian ladies flowers took took the lead in decoration, whether of the head or elsewhere, while in the colours the favourites were decidedly white and blue.

As usual, there was no lack of ices and iced drinks; but, amidst such a vast crowd, it was difficult to obtain a supply—the more so as the refreshments were issued by small detachments through little doors in remote corners of the rooms. In this particular our Parisian friends would do well to take a lesson from us.

By one o'clock, numbers of the guests began to leave, oppressed, no doubt, by the excessive heat and want of fresh air. At two, the rooms were perceptibly thinning, much to the satisfaction of those who were bent on keeping it up. At three o'clock, dancing was proceeding rather more vigorously than before; and not a few were found who were thus engaged when the clock struck four, soon after which there was a general break up. We have rarely heard more effective orchestral music than at this ball.

The Hôtel de Ville is a very remarkable edifice: it was commenced in 1533, after the designs of an Italian architect, Boccaridora, but it has been frequently repaired and beautified, especially in Louis Philippe's reign. The apartments are extensive, handsome, and commodious. The principal hall is a vast parallelogram. On looking at the gay throng of Tuesday, reminiscences were raised of the strange scenes witnessed in the interior. Louis XVI. was brought from Versailles here by the mob, and exhibited from the windows. During the three days, fighting of 1830, the Hôtel de Ville was taken and retaken several times. It was herein that Louis Philippe was proclaimed Lieutenant-General of the kingdom, and, subsequently, King. It was here that the "Gouvernement Provisoire" proclaimed the Republic in 1848, and held for some days their sittings. It was here that Caussidière installed himself as Prefect of Police, and the orgies of his followers took place. I saw the edifice at that period, and could not help contrasting the costumes of the ruffians who were then in possession, with the gay toilettes of the *ancien régime* so frequently seen on Tuesday night.

THE REVIEW ON WEDNESDAY.

There is a story of a German Prince, who, after entertaining a powerful visitor and bestowing upon him all the attention which the most magnificent and courtly hospitality could suggest, sent the whole of his standing army to escort him home. In a somewhat similar manner, the Parisians, after providing their English guests with balls, concerts, and banquets, invite them to witness one of the grandest military displays that have been seen in France; although, to avoid an entire resemblance to the German Prince, and to prevent the possibility of a compliment being in any way misunderstood, they follow it up with a performance the same evening at their principal theatre, part of which is devoted expressly to the celebration of the good feeling existing between the two countries. The Review, which took place on Wednesday last, in the Champ de Mars, must be considered, then, as the *grand tableau* of a holiday entertainment, in which the fountains of Versailles and the ball at the Hôtel de Ville were two of the most beautiful scenes. No series of *fêtes* can terminate satisfactorily in Paris without a review. A dinner without a dessert, a ball without a supper, or even a quadrille without the last figure, would not be more incomplete. And it is not surprising that a grand review should be an object of so much interest in a country like France, where the standing army is so recruited, and is so large, that nearly all families must have some friend or relative actually employed in the service. There the military idea is exhibited as well in the sports of the children as in the trousers of the men. The wish to be mistaken for a soldier is as evident in the case of the mechanic, who delights in Sunday garments approximating as closely as possible to a regimental pattern, as in that of the child, who prefers strutting about with an impracticable gun over his shoulder, and, alas! a too practicable drum at his side, to the more active, but less glorious pursuits of cricket and leap-frog. Look again at the French vaudevilles, one-third of which have a soldier for their hero; whereas, in England, a private in the Guards of the present day becomes useless for dramatic purposes directly we separate him from the policeman and the ordinary class of low-comedy characters.

If we consider the military feeling in France, which proceeds from actual love of destructiveness, as separated from the taste for theatrical display, is it not shown in the inordinate number of booths devoted to shooting purposes which are to be found outside every barrier, at all the fairs, large or small, and permanently in that part of the Champs Elysées which is generally given up to amusements of the Greenwich Fair description? And these are no ordinary arenas for the display of proficiency in the use of fire-arms. Some of the meaner ones, which are patronised by the more quiet order of destructionists, are certainly provided with the ordinary target to which we are accustomed in the galleries of our native land, and nothing more; but every keeper of a shooting-booth with the slightest pretensions to bloodthirstiness, furnishes his marksmen with a hideous human figure, on which the heart is painted in brilliant red, without much regard to anatomy, but at the same time in such a position, that a bullet piercing a corresponding part of a live biped would cause very unpleasant consequences. These latter are, of course, intended for the use of homicides in general; but the amateur murderer of a particular individual is not left uncared for, provided always that his wished-for victim be of sufficient elevation in the social scale. Many of the booths are filled entirely with plaster busts of unpopular ministers. The image of the late King of the French is now fired at more often in the course of one hour than the original was during his entire reign. M. Guizot may be perforated with bullets at the rate of three for one *sous*, and M. Thiers may be shot through his spectacles at an equally economical rate.

Moreover, a really grand review must have attractions even for a member of the Peace Congress; and any person who has ever derived the least gratification from witnessing a military spectacle at Astley's, in London, or at the Cirque in Paris, must feel unbounded delight at seeing manœuvres executed, with all the precision of "real soldiers," by a *troupe*, the engagement of which for a single day would be more than sufficient to ruin a management backed by the united capital of all the theatres in Europe. Indeed, the theatre in Paris which is particularly devoted to military representations, would soon have to close its doors, if the Champ de Mars were once to enter into competition with it. We admit, that an interest is excited on behalf of the heroes of warlike dramas which is not at all felt in the case of a general reviewing his troops in actual life; but what can equal the series of magnificent *tableaux* presented to us in the latter instance? and how superior is the training of the supernumeraries!

The authorities, however, on the present occasion, determined to give as much dramatic interest as possible to the operations of the army of Paris; and, accordingly, the official programme, as published in the *Moniteur de l'Armée*, announced a *simulacre de combat*, or sham fight, to take place between two hostile armies, stationed on opposite sides of the Seine. The army on the left side of the Seine occupied Grenelle and the Champ de Mars, and consisted of General Guillabert's division, a brigade of cavalry, a reserve composed of the cavalry of the Republican guard, and two brigades of artillery. The army of the right bank occupied the Trocadero and the Bois de Boulogne, and was composed of two divisions, commanded by Generals Carrilet and Levasseur, and four brigades of artillery, under the command of General Carrilet. The number of men engaged is not stated, but is set down by military amateurs at from twenty-five to thirty thousand. It is also impossible for us, in the absence of any official document, to give any precise idea of the comparative numbers of the two armies; but it would appear that the army of the left bank was the richer as regards cavalry, while that of the right had more artillery.

On the eve of the day fixed for the Review, an announcement appeared in the journals, and on placards posted about the city, to the effect that the President of the Republic, taking into consideration the extreme heat of the weather, had resolved to postpone the military operations from eleven in the morning until four in the afternoon, at which period there appeared some possibility of the soldiers going through their duties without experiencing an almost mortal fatigue; for the heat during the two previous days had been so excessive, that a "*simulacre de combat*" at noon would have been scarcely preferable to an actual engagement towards sunset.

And there were other good and valid reasons why no such amusement should commence at an early hour on Wednesday. For the ball at the Hôtel de Ville, on the night previously, had been kept up to an unusually late hour, and there was no necessity, in the present happy time, for introducing the cannon's roar too abruptly after the "sounds of revelry by night." Besides, many of the officers who had to serve in one or other of the hostile armies destined to meet in friendly warfare, were old campaigners at the Italian Opera, and had seen much hard service at the Opera ball and Café Anglais: it is well known that such heroes exhibit the greatest physical endurance during an entire night, and even refrain from retiring to rest until day has nearly broken; but it is also believed that early rising is not enforced in any article of their military code. Be this as it may, the sham fight was put off until the heat should have passed away. If real fights were postponed until all unnecessary warmth had subsided, we imagine that few would take place at all; but the army on the left bank of the Seine had no idea of postponing its attack on its hated rival one moment later than four P.M., and, accordingly, on the morning of the battle, the streets were crowded and the shops empty. Tradesmen gave up all idea of profit and loss for the day, and closed their establishments to betake themselves to the field of action. Others, unable to reconcile themselves to the idea of entire cessation from business, nevertheless forsook their counters for several hours; most of the Parisian idlers, all the visitors from Great Britain (and Paris, to borrow a military term, is now literally occupied by the English), in fact, the population generally, were out of doors even before the sun had attained a sufficient altitude to recommence its present popular process of scorching pedestrians within an inch of their lives—the sun which will inevitably send back "the blond misses of Albion" with such complexions, that the epithet which their French admirers are so fond of applying to them will appear only capable of an ironical interpretation.

Although the actual operations were not to commence until the afternoon, a great deal in the way of marching through the streets of Paris was gone through in the morning. The troops during this performance presented a far more military aspect, in the conventional sense of the word, than is usually the case. The discipline of the French army does not, as a general rule, enforce the same rigid attention to personal deportment in the individual, and uniform action in the masses, which we find in our own. Whole regiments march out of step, and in an apparently slovenly manner; while the muskets of 2000 men, instead of being all turned in the same direction, rise towards the sky at 2000 different degrees of elevation. It is held by the French officers, that the seemingly negligent mode of marching, whether graceful or otherwise, enables the soldier to get over more ground than the more formal and measured tread adopted by fancy regiments, such as our Foot Guards. It is considered unimportant that the muskets of a regiment in marching order should be shouldered so as to form parallel lines one with the other; but it is deemed essential that this regiment should know how to bring them all to bear on the same object at the same moment. The barrels of the fire-arms used by the French army are certainly not remarkable for brilliancy; and the sun is not reflected from them in so pleasing a manner as the military amateur might wish: the fact is, they omit to polish their muskets with sand-paper, because, although it makes them look very pretty, it at the same time renders them extremely liable to burst. This attention to the essential and useful, and the neglect of the ornamental and worse than useless, part of the military profession is carried to such an extent, that during an ordinary parade, when a temporary cessation in the inspection of any one company has taken place, the officers of this company will take out their cases and smoke their cigars among the privates; and the privates will take out their pouches and smoke their pipes by the side of the officers.

On Wednesday last, however, it was evident that the army of Paris had put on its holiday manners with its *grande tenue*; and, certainly, so long as a review is not a battle, polished muskets, splendid accoutrements, and a good theatrical style of drill will be essential to its success. The appearance of the troops was accordingly all that the most ardent soldier or the most fashionable tailor could desire. The army of the *rive droite* appeared boiling with indignation at the thoughts of what the legions of the *rive gauche* were preparing for them; and the cohorts of the *rive gauche* were evidently thirsting for the blood so soon to flow from the *rive droite*. The finest regiments physically, as well as regards dress, are now in Paris; and certainly, if the soldiers owe something to the accoutrements for their magnificent appearance, the accoutrements are also indebted for theirs to the manly appearance of the "braves" who wear them.

On contemplating these picked regiments hurrying to their posts, it is absolutely mortifying to think to what an extent the arts of peace have been laid under contribution for the greater glory of the art of war; how every improvement in science which has been calculated to increase the happiness of mankind, has been shortly afterwards turned to purposes of destruction; how discoveries which should only have had the effect of softening our manners, have, with Satanic dexterity, been made the means of rendering them more ferocious. Take one of the best cavalry regiments in Paris; look at the breed of the horses (for the French cavalry are the best mounted equestrians in France), and observe all the latest improvements in saddles, bridles, stirrups, and spurs exhibited in the equipments. Of course, too, all the carbines have percussion locks; while many a rural sportsman (for whose class they were originally invented by a peaceably disposed individual) is obliged to make uncertain attempts on the lives of small birds with a steel and flint fowling-piece. During the peace the French have made great improvements in certain departments of hardware-manufactures; and, accordingly, an officer in a light dragoon regiment has a blade which would do honour to Saladin or the gentlemen who bisect legs of mutton in Leicester-square; while at an ordinary Parisian *table d'hôte* you can't find a knife sufficiently sharp to cut a hard-boiled potato through the middle. How long had the steam-engine been invented before the steam-gun was spoken of? and it is only yesterday, just when the electric telegraph is attaining something like perfection, that we hear of an electric cannon, with power to do evil in exact proportion to the power to do good possessed by the humanising invention which suggested it. In the meanwhile, we must not forget that peace has derived some advantages from the one great discovery which was originally intended for war alone: gunpowder is frequently used for clearing out the crooked little flues of old-fashioned stoves, which could not be thoroughly cleansed by any other process.

But we must return to our armies on the opposite banks of the Seine. In order to prevent general inconvenince, and to render the occupation of Grenelle and the Bois de Boulogne an exploit of no great difficulty. A general order had been issued, by which ingress and egress to and from certain parts of the scene of war was forbidden after ten o'clock. It was not long after that hour when signs of excitement on the part of the so excitable Parisians became apparent. People who were determined to get good places hurried to the scene, without regard to the hours during which they would have to wait, and the sun by which they would be scorched; and long before the ground had been marked out, the Champ de Mars contained a sufficient number of persons to have made the fortune of M. Poitevin, the aëronaut, had their object been to witness one of his popular ascents; for the Champ de Mars is not exclusively a military arena: not only have its sands been trodden for months past by the most skilful Arabian acrobats we ever beheld, but M. Poitevin and Madame Poitevin, and M. Poitevin's carriage, and Madame Poitevin's horses, have been in the habit of making it their starting-place for their weekly wanderings in the air. Of late the Champ de Mars has almost forfeited all claims to its title; it has been dedicated more to the god of the winds than to the god of war; and the commander of the army of Paris, with his staff, has been seen there far less frequently than M. Poitevin with his triumphal car with a phaëton and two horses attached to it.

But it was time for more serious display when the army of the left bank was seen to exhibit unmistakeable intentions of attacking the enemy. The assault was soon commenced. It being necessary to form a bridge across the Seine, several companies of *voltigeurs* crossed over in their boats, and, under the protection of their fire and that of the artillery, a line of boats was at last constructed, over which two battalions immediately passed in order to attack the Trocadero on the left; while two others, who had at the same time crossed the Bridge of Jena, attacked it on the right; and four others, who had crossed the same bridge, threatened it from the front. These three attacks were made simultaneously; and we certainly thought that General Guillabert and the army of the left bank were going to have it all their own way, when suddenly a body of soldiers rushed down from the Trocadero and the ground behind it in sufficient numbers to make it advisable on the part of the army of the left to beat a retreat, and to repass the bridges; after which they destroyed the line of boats which had been thrown across the river, and formed again in the Champ de Mars under the protection of the artillery and cavalry.

The review commenced at four o'clock, and perhaps it would only be fair on our part to chronicle a drawn battle, which is all we could anticipate from the admirable manner in which both sides behaved. The army of the right bank, indignant at the unprovoked and uncalled-for attack from the army of the left, not content with repulsing the enemy, actually followed them into the Champ de Mars, and gave them a complete thrashing in the presence of one of the most brilliant assemblages ever collected "in this or any other field of battle." The army of the left bank now thought fit to run for it, and accordingly did so under General Guillabert, with the greatest success. In fine, the "*armée de la rive gauche*" met with the treatment which its insolent conduct deserved, and we have no doubt that the result gave the greatest satisfaction to the distinguished visitors present.

The various movements, considering the confined space, were executed with the greatest precision. The charges of the cavalry were much admired, especially those of the dragoons and carabiniers. The hussars also showed to the utmost advantage. Several accidents occurred, owing to the riders losing their seats. The President of the Republic rode rapidly up to one dismounted hussar to ascertain the extent of his hurts. The Prince rode a magnificent charger, and his style of riding was universally admired. With his staff was a strange admixture of uniforms. Marshal Narvaez was present with two aides-de-camp. General Sir John Burgoyne Captain Stretfield and Mr. Lumley, of the 1st and 2nd Life Guards, were in full uniform. The troops did not begin to defile before the President, who wore the uniform of a General of the National Guards, before six o'clock; the passing of the cavalry in full trot was very imposing. Various calculations were made as to the number of troops: we estimated them at 30,000; viz. 4000 cavalry, and 26,000 infantry. All the members of the Peace Congress had been invited to this review, and we recognised Mr. Bright, M.P., in one of the tribunes. The light infantry, particularly the Chasseurs of Vincennes, attracted the highest admiration. Their activity is astonishing, and their steadiness in mixing amongst the masses of charging cavalry won universal applause—for, sham as the fighting was, it became a reality to many of these skirmishers, three or four of whom were drived down by the horses, and severely injured. It was past seven o'clock before the review was over, and the return to Paris of the populace was as animated a spectacle as the assembled masses of soldiers on the field of battle. The Prince was very respectfully received, if not cordially; he was generally saluted with cries of "Vive Napoleon"—we heard no mention of the Republic.

THE GRAND OPERA ON WEDNESDAY NIGHT.

The performance which took place this night at the Grand Opera, in honour of the guests of London, was a magnificent spectacle. The invitations were thus expressed:—"Académie Nationale de Musique, le Mercredi, 6 Août. 1851. Représentation extraordinaire offerte par la ville de Paris à Messieurs les Commissaires délégués de l'Exposition Universelle de Londres;" and the number of the reserved place was then specified. After the sham fight in the Champ de Mars, the crowds formed on the Boulevards leading to the Rue Lepelletier, anxious to obtain a glimpse of the lion of the capital, the Lord Mayor. The rows of chairs before all the *cafés* were increased tenfold; and, as at the corner

of the street leading to the opera-house there were gas illuminations. nothing could be more animated than the aspect of the vast populace, The exterior of the theatre was lighted up with garlands of gas-lights. At eight o'clock the first act of "La Juive," of Halèvy, was commenced, but few of the foreigners invited having arrived, owing to the lateness of the hour at which the review ended. At the Corinthian columns of the proscenium, and at those of the angles of the *façade* of the boxes, tricoloured flags were clustered, a large eagle being a remarkable object in the centre of each group of flags. The beautiful music in the first act of this work, comprising the lovely melody of the *Cardinal*, with its elegant orchestral under-current, the serenade of *Leopold*, and the septuor of the drinking chorus, were but indifferently executed; but Mdlle. Poinsot and Gueymard, the tenor, by their energy in the finale, "Oh, ma fille chèrie," created a great effect. The Lord Mayor arrived towards the close of the first act, but was not recognised by the audience: not so the Chinese, over his head, in the public boxes, who was again the observed of all observers. At the beginning of the fourth act (the third at Covent-Garden) Lord Normanby and Lord Granville joined the Lord Mayor; and just as the *duo finale* between Mdlle. Poinsot (*Valentina*) and M. Gueymard (*Raoul*) was ended, the President of the Republic entered his box, on the first tier on the stage, next to that occupied by the English Ambassador. No recognition of Prince Louis Napoleon took place on the part of the auditory: he had changed his dress of a General of the Legion of Honour to that of a private gentleman. He looked in excellent health and spirits, as if quite satisfied with his day's campaign in the Champ de Mars.

As Gueymard is now the star tenor of the Grand Opera, it will be necessary to observe that he has considerable fire, both in his acting and singing, but that he wants style and refinement. I must confess, that I prefer the stage action of the "Conjuration des Poignards" to that adopted in London; but our musical execution is far preferable. Besides the two acts of "La Juive" and "Les Huguenots," the second act of Auber's "Enfant Prodigue"—with Mdlle. Dameron as *Jeftèle*, Madame Laborde as *Nephté*, Mdlle. Robert, an exquisite *danseuse*, as *Lia*; Obin as *Bocchoris*, Gueymard *Azael*, and Morelli, a capital baritone, *Ruben*—there was also a scenic representation by Desplechin, the Grieve of the Grand Opera, of our Crystal Palace, with a new ode, "Les Nations," prepared for the occasion. M. Théodore de Banville is the author of the poem; and M. Adolphe Adam, the popular composer of the "Postillon de Lonjumeau," "Le Brasseur de Preston," "Le Toréador," &c., has written some charming music, vocal and choregraphic. M. Arthur Saint-Léon (husband of Cerito) has arranged the incidental *divertissement*. As regards the operatic portion, Mdlle. Masson represented *England*; Mdme. Laborde, *France*; M. Obin, *Labour*; and M. Chapuis, *Commerce*. The dance divisions were assigned to Mdlle. Marquet, *Peace*; Mdme. Flora Fabbri, *Glory*; Mdlle. Mathilde Marquet, *La France Guerrière* (France belligerent); the charming Celestina Emarot, *England*; Mdlle. Robert, *Spain*; Mdlle. Caroline, *Turkey*; Mdlle. Savil, *America*; and Demoiselles Pierron, Lacoste, and Nathan, the *Northern Nations* (*Prussia*, *Russia*, and *Austria*). Besides a *pas de deux* between Mesdames Rousseau and Astory, there was a *pas* of the three colours—white, red, and blue—and a ballet of the nations by the representatives I have named. The ode opened with *France* calling on the *Patrie* to sing to *Peace*, *Art*, and *Labour*, in harmony with the *Muses*; and the chorus echoed the voice of *France*. After this eloquent exordium, *France* announced that "l'Angleterre aux yeux bleus" (Saxon, we presume) had quitted the Crystal Palace to be present at the French *fêtes*: the *Maîtresse des Mers* (the ruler of the sea) and a flourish of brass introduced the *Nations*, around whom the chorus grouped gracefully—an imposing *cortège*, in which there was a car, surrounded with clouds, on which (the car) *England*, *Labour*, *Commerce*, *Manufactures*, and the *Arts* guided the nations towards *Glory*, with *Peace* serenely looking on. *France* then addressed *England*, in what is designated in after-dinner phraseology a "neat speech;" and *England* responds:—

O ma sœur, une reine a pour la Liberté
Elevé d'un régard mon Palais enchanté.

Or, in plain words, that our gracious Queen, for the sake of liberty, had improvised an enchanted palace; and then Mdlle. Masson, equally complimentary, as the Anglican deputy, told her sister (*France*) that she produced under her "*beau soleil*" dainty wines. She insists that the two countries should remain united by a thousand harmonies, and that they should be a cordial pair for the "*genre humain*." Then, rejoined *France*, very characteristically, "Let us cement our hymen by a dance;" and *England*, like a *prima donna* in a grand opera, being conducted to a seat, the dance began with some forty damsels dressed in the national colours (tri-coloured), the groups depicting the suspended banner of Republican France. After this the nations had a turn, each with an appropriate emblem—*France*, with a lance; *England*, with a ship; *America*, with merchandise; *Spain*, with its Toledo blade; *Turkey*, with its dancing almées; *Prussia*, typified by Meyerbeer sounding the trumpet of Fame for the "Prophète" and "Huguenots;" *Russia*, with its pickaxe, seeking for gold in the mines; and *Austria* holding the Italian lyre. This dance music of Adam was enchanting; and after the divers *pas*, a hymn was sung eulogistic of the arts of Peace and Labour; and, finally, the Crystal Palace appeared in the midst of an allegory in honour of Commerce and Arts.

The delegates of the Exhibition had, most assuredly, little reason to be critical touching M. de Banville's inspirations, and M. Adam's melodious developments thereof. That such an ode should have been presented at a national opera-house in France, must be looked upon as one of the most remarkable demonstrations of the age—a reaction in public opinion between the rivalities and jealousies of two nations that may lead to the most important results.

CONCLUSION OF THE FETES.

With the performance at the Grand Opera on Wednesday night, ended the grand *fêtes* given with such hospitality by the Ville de Paris to the Commissioners of the Exhibition, and to the civic authorities of London. Besides the public entertainments, the guests were cordially received at the private houses of their friends; and *déjeûners à la fourchette*, and *diners* at the famed *restaurants*, abounded. Men of all shades of public opinion met in friendly converse; violent antagonism was cooled down to mutual toleration; and the past, present, and future were canvassed with calmness by the extremes of all parties. A general spirit of candour seemed to prevail as to the respective claims for superiority in each country; the advantages of very opposite forms of government were discussed, with the evident desire to arrive at a pacific solution of all intricate systems. These meetings were perhaps some of the most curious results of these *fêtes*, and may lead to very important results. It is impossible to eulogise too highly the disposition on the part of the public, as well as of the authorities, to bestow every attention on the visitors. If an Englishman found himself in a train or in a public room, without the facility of describing his feelings or wants in fluent French, ready interpreters were soon found; and often the eloquent expression of the eye was seen to convey the friendly sentiment which ignorance of the language could not give vent to verbally. This will be a memorable visit of the English to the French capital. Many antipathies have been removed, many prejudices dispelled, many errors corrected, many enmities ended, and many friendships cemented. "If," exclaimed with fervour a once well-known hater of the English to one who had been equally bitter against the French, "nous ne pouvons pas être des amis ardens, soyons au moins des ennemis généreux." The apostrophe was received with enthusiasm in a large circle of distinguished men of great extremes in politics; and it will not be without an echo in both countries. Yes! if we cannot be stanch friends with our neighbours, let us, at least, be generous enemies.

THE ILLUSTRATIONS.

In our present Number appear the following Engravings:—

No. 1.—Reception of the Lord Mayor at the railroad station of the Chemin du Nord in Paris.
No. 2.—Portrait of M. Berger, the Prefect of the Seine.
No. 3.—Arrival of the Lord Mayor at the Hôtel de Ville.
No. 4.—Banquet at the Hotel de Ville.
No. 5.—Ball at the Hôtel de Ville.
No. 6.—The Grandes Eaux, Versailles.

Next week we shall continue to illustrate the incidents of these magnificent and unprecedented *Fêtes*.

M. BERGER, PREFECT OF THE SEINE.

Our Artists present a very striking portrait of the Prefect of the Seine, in this day's columns. Jean Jacques Berger was born at Thuri (Puy-de-Dôme), on the 21st of June, 1790. His father was a paper-maker. At thirteen years of age, M. Berger was sent to the Lycée Napoléon, in Paris, to study; and he became an advocate, ultimately purchasing the practice of *avoué* (attorney), in 1819. On the 29th of July, 1830, he was named Mayor of the second *arrondissement* of Paris; and, in 1833, sold his office of *avoué*, to devote himself exclusively to municipal affairs. In 1837, he was elected a deputy. On account of his strong opposition in the Chamber, the Ministry, or rather Louis Philippe, dismissed him from the post of Mayor; and, against the wishes of the electors, another candidate was chosen. In 1842 and in 1845, he was at the head of the poll for Mayor, but the Cabinet continued to prefer the candidate with the inferior number of votes. In 1846, he was elected deputy for this very second *arrondissement*, as well as for another place; the electors of the former proving that they were resolved to have him their representative, if not their Mayor: M. Jacques Lefebvre was beaten on this occasion, and the contest created intense interest throughout the country, so much so, that the Ministry, on his re-election as Mayor in Dec., 1847, was compelled to accept him, indicating the increasing strength of the Reform or Republican party. M. Berger was present at the famous Château Rouge banquet, and was elected Commissary of the Banquet of the second *arrondissement*, prior to the revolution of February, 1848. On the 21st, he signed the act of accusation against the Ministry. On the 25th of February, he was maintained Mayor by the Provisional Government, and subsequently he was named Prefect of the Seine. His personal character stands high. The Lord Mayor has been his guest at the Hôtel de Ville, the official residence of the Seine Prefect. The attention of M. Berger towards the English during the *fêtes* has been marked.; it was through him that the Ville de Paris issued its invitations to London. He has a tall commanding presence, and he speaks well.

THE "SPIRIT," NEW WELLED FISHING SCHOONER.

MR. ROBERT HUNTLEY, Greenwich, has lately had built at Sandwich, by Mr. James Hood, a beautifully modelled schooner, fitted with a well in the centre for fishing purposes. Her burden is 116 tons, new measurement. Her dimensions are:—length of keel, 74 feet; breadth of beam, 18 feet; depth of hold, 10 feet; length of well, 22 feet.

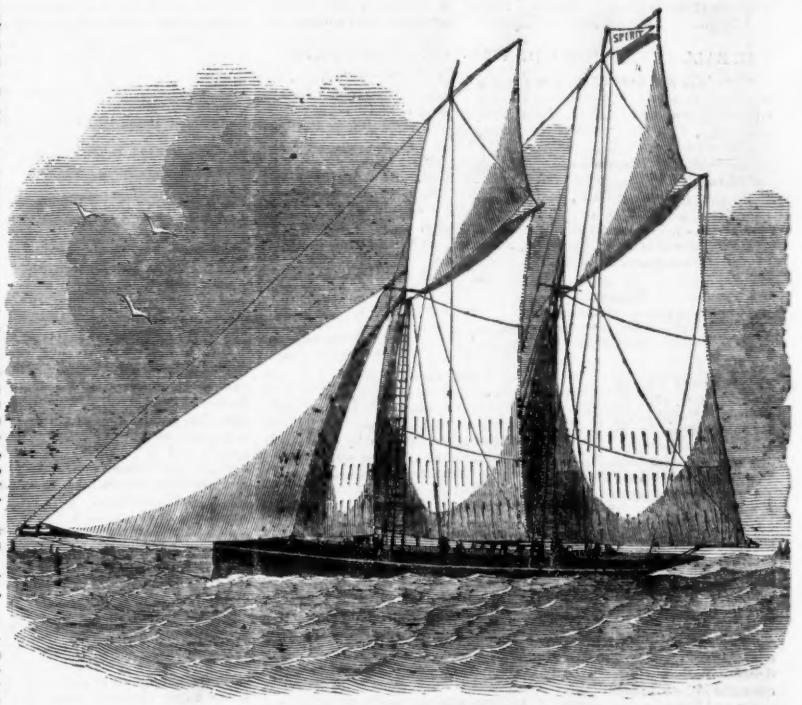
The peculiarities of this vessel's well from those in cod-smacks is, the well is divided into three compartments instead of two, and the holes through the planks that lead into the well, instead of being round, are cut longitudinally, or lengthways. Each hole may be about six inches long and one inch wide. This improvement is to admit more air into the well, and a more free circulation of water. The vessel is strongly built, and is coppered and copper-fastened.

The *Spirit* is now engaged in the eel trade, carrying living eels from Ireland to market. The eel trade continues about four months in the year. The remaining part of the twelve months she will be employed in the Iceland cod fishery. The proprietors of this schooner give considerable employment to many of the inhabitants of inland towns in Ireland, fishing for eels in locks and lakes, &c. Last year they imported upwards of 100 tons of eels from Ireland, the most of them large.

The cubic contents of water in well is 1200 feet; will carry 20 tons of eels alive, or 3000 cod fish.

The *Spirit* was built under the superintendence and inspection of Mr. J. Bishop, Greenwich.

To Mr. J. E. Saunders, Lower Thames-street, Mr. Howard, of Manningtree, and Mr. Dempster, who has long advocated fishing improvements, some credit is due for their constant exertions in keeping the important question before the public.



"THE SPIRIT," WELLED FISHING SCHOONER.

THE TOTAL ECLIPSE IN NORWAY.

The *Scotsman* of Saturday last contains an interesting communication from the Astronomer-Royal for Scotland, who proceeded to the western coast of Norway for the express purpose of witnessing the solar eclipse of July 28. This account of the remarkable phenomenon is important, not only as being the first which has appeared in this country from any quarter in which the eclipse was total, but as being probably the only account which we shall have from all that part of the line of complete obscuration, bad weather seeming to prevail everywhere else in the neighbourhood, which was, moreover, one that could hardly have been reached but for the unusual assistance which was obtained in the present case. The paper is as follows:—

"After all that has lately appeared in print in various places, it is, perhaps, hardly necessary to refer to the extreme importance of a total eclipse being observed at that narrow strip of the earth's surface where it is quite total. There it is everything, elsewhere it is nothing. That is, there a darkness approaching to that of night is experienced, and a host of interesting phenomena then, and then only, reveal themselves, and furnish the only clue, which we can ever hope for, to the physical nature of the light and heat giving surface of our sun, with the state of which the whole of our well-being is so intimately bound up. But elsewhere than on that contracted line, but one hundred or one hundred and fifty miles broad, though the eclipse be a large one, still, if the smallest particle of the sun's disc be left unobscured, there is still the brightness of day, and none of those phenomena are displayed.

"The places where an eclipse will be total, are, in the present state of astronomy, easily and accurately computed beforehand, so that observers may choose their stations with certainty. After full consideration of what was preparing and was likely to be done elsewhere, there seemed a probability of the western coast of Norway being less effectively occupied than any other part of the line; by reason, probably, of its inaccessible nature, caused by the absence of any direct means of public conveyance by sea or land. But, at the same time, the eclipse happening earlier there than in any other part of Europe, would render it, in so far, the most eligible station of all. A representation was therefore made by the Astronomer Royal for Scotland to the Commissioners for Northern Lighthouses, on the important results which might accrue to the science of astronomy, from the total eclipse being well observed on the western coast of Norway; and the Commissioners, with their usual readiness to do all that they fairly and properly could towards the promotion of science, without detriment to their own immediate interests, examined their programme of work for the season, and finding that their steam-vessel would be employed at almost the very time of the eclipse on a point in the Shetland Isles, only twenty hours distant from the desired part of the coast of Norway, kindly expressed their readiness to concur in the general object proposed, so far as the means of conveyance was concerned. The next step, therefore, to insure this liberality being turned to good account, was to provide a sufficiency of observers and of instruments. The former requisite was eminently secured by the Rev. Dr. Robinson, the well-known astronomer of the Armagh Observatory, having engaged to join the party, and to him the general direction was unanimously awarded. The latter desideratum was supplied by making application to the hydrographic department of the Admiralty, which, in the person of its chief, Sir F. Beaufort, not only offered the loan of any of the royal navy's surveying instruments, thus rendering the Scottish expedition more complete in this respect than perhaps any other, but prevailed on the Board of Admiralty to procure through the Swedish ambassador, from the Governor-General of Norway, full leave for the party to land with their instruments on any part they pleased of the coast of Norway, of which, moreover, he procured an accurate manuscript chart.

"These matters, therefore, being arranged, the astronomical party being taken on board as the vessel passed on its way to the Shetland Isles, and the inspection of the lighthouses there being completed, a rapid run was successfully accomplished to the Norwegian shore, and a station was selected on one of the outlying Bue Islands, in lat. 61 deg. 20 min. This position not only placed us in the centre of the line of shadow, but gave us a clear horizon in the direction of the sun at the time of the eclipse, and removed us sufficiently far from the great meridian chain of mountains, running along the western coast of Norway, and gathering about them that morning a multitude of clouds, to make up, as it seemed, by an unprecedented deluge of rain, for the unusually long space of uninterrupted fine weather which had been experienced before our arrival. The instruments were landed at an early hour, and there were sufficient glimpses of the sun through the clouds to obtain the necessary observations for time and for latitude; and before the commencement of the eclipse each observer was told off, with his instruments prepared, and with a code of instructions. These, too, were so arranged, that, by division of labour, it was hoped, that, although the important part of the eclipse was of so short a duration, and the number of phenomena to be noted so many and various—that yet none of them, whether referring to the purely astronomical bearings of the case, or to cosmical or terrestrial physics, could be well lost sight of—that is, weather only permitting, but this was by no means so favourable as could have been wished. Still, however, the commencement of the eclipse was very fairly observed, and sufficient was seen during its progress to enable the observers to take accurate notes of some spots on the sun, and of mountains on the edge of the moon, so as to be prepared to state their degrees of connexion, as regards place, to those wondrous tongues of light, and the variations of the corona, the most inexplicable and the most important of all the phenomena presented during a total eclipse. Further, the instant of complete obscuration was observed very accurately, and some interesting features were remarked, tending to explain anomalies perceived in former total eclipses, and indicating a rapid fluctuation in the degree of brightness of the sun's surface. Immediately after this, however, the clouds became so very thick, that the emersion of the sun was not seen at all, and heavy rain beginning soon after, continued through the rest of the evening. But the terrestrial phenomena, to which more attention could be turned on the loss of the celestial ones, were of a nature abundantly sufficient to satisfy any soul capable of entering into and appreciating the awful and the sublime. As the totality approached, the air felt sensibly colder at every moment, and the darkness plainly increased; the clouds seemed to lower, and under the sun was seen an appearance of rushing descending streams of them; while the sea-birds appeared by their noise to be gathering around the rocks for their nightly rest or for shelter. The difference of illumination had also become very marked on the mountains at different distances, those far from us being brought out with a vividness and distinctness which made our own increasing gloom the more observable. Suddenly, at the moment of totality, the very extremity of darkness seemed to fall upon us. Not so, however, absolutely; for the rain clouds, which closed in the greater part of the horizon, left open a strip of sky extending from N.W. to E.N.E., and two or three degrees high, and which at this moment became of a dark lurid orange colour, verging from red on one side to greenish on the other, and enabled us barely to see each other by a faint unearthly sort of light. Small hand lamps, 50 or 60 yards off in a hollow, were as visible as in a dark night, and with their red colour contrasted strangely with the general green hue of everything immediately around. But the appearance of the country seen through that lurid opening under the clouds was the most appalling. Though standing in the centre of the shadow, we could yet, by reason of their great height, see the distant peaks of the lofty Jostedals and Dovrefjeld mountains, still illuminated by the rays of the sun descending upon them from on high, but we were shut out into outer darkness. Some approximation to the appearance might be obtained by watching the opportunity of a similar configuration of clouds in the north from the Calton Hill during a midsummer's midnight, but still it would be only an approximation, for never have we observed all the lights of heaven and earth so entirely confined to one narrow strip along the horizon, never that peculiar greenish hue, and never that appearance of outer darkness in the place of observation, and of excessive distance in the verge of the horizon (caused in this case by the hills there being more highly illuminated as they receded, by a less and less eclipsed sun; while in a morning or evening sky they are, on the contrary, most in the shade, and, therefore, are dark and unnaturally thrown forward). Though none of us were unmoved with gratitude at having been allowed to witness such a spectacle, though we should have been glad to have enjoyed its teaching for a longer space of time, and should have been alarmed, indeed, if it had not happened as it did, and with such wonderful accuracy to the computed time, yet a certain feeling of relief was experienced when the lurid streak in the sky suddenly changed to yellow, when the clouds brightened up, and the darkness seemed to be wafted visibly away to the south-east. The sea-birds that had stopped their screaming during the darkness now re-appeared; but the wild Norsemen of these rocky isles, who had congregated so curiously around us during the commencement of the eclipse, when the light returned where were they? Gone to hide themselves in their huts, thinking that they were in the jaws of destruction, amongst the stones of darkness and in the shadow of death. Such, we heard afterwards, was the general feeling amongst them all along the coast, even beyond the limits of total obscuration. Horses and oxen began to wend their way homeward, and poultry to fly up to their roosts; but one farmer informed us that an amusing scene of confusion took place when the fowls found the darkness coming on so quickly that they could not all get placed on their perches in time; and then, again, when they found by the quickly returning light that they had had a false alarm. We also heard that there had been over all that line of the country such excessive rain that day, that our party, enabled by the lighthouse steamer to take up the peculiar position we did, was probably the only one that had had the good luck to make any accurate observations; a circumstance the more fortunate, inasmuch as that was the earliest part of Europe visited by the shadow in its progress from west to east."

CLEOPATRA'S NEEDLE.

(To the Editor.)

Allow me to correct a statement which appeared in your Journal of June 28, respecting Cleopatra's Needle. The obelisk given to the nation by the late Pasha is now lying on the ground, broken into several pieces, and I should think it would be almost impracticable to place it again in an upright position. However interesting such a relic in this country may be to the antiquary and hieroglyphist, it would present but an unsightly appearance in the streets of our modern Babylon. I do not think any one of correct taste can consider the *coup d'œil* of the Place de la Concorde, at Paris, is improved by the addition of the obelisk of Luxor.

If the public money is to be spent on such an object at all, would it not be better to obtain the leave of the Pasha to improve and beautify the locality of the standing obelisk at Alexandria, and by that means record our victories in a distant land, and at the same time shew that we consider, that, when practicable, the preservation of objects of antiquity in their own country is much more desirable than their removal to distant lands, when in this case they are of little interest to any but antiquaries, and their display in the public streets would not tend to improve the already low standard of national taste.

Gravesend. ÆGYPTUS.

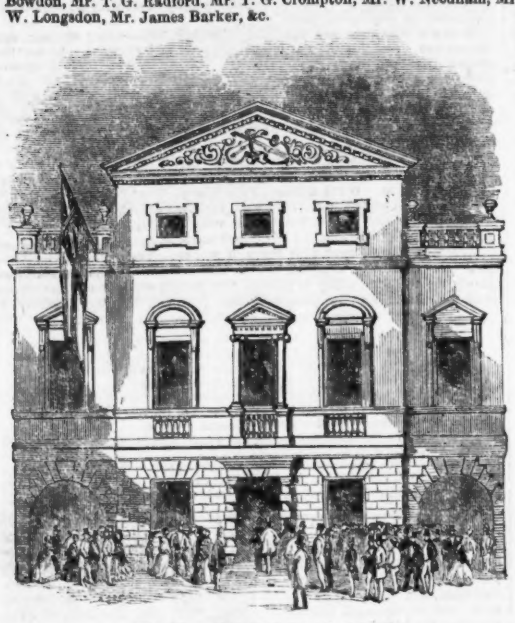
The following railway bills received the Royal assent on Friday week; viz. Llynvi Valley and Duffryn, Llynvi and Porthcawl; Manchester, Buxton, Matlock, and Midland Junction; Thames Haven; Cameron's Coalbrook Steam Coal and Swansea and Loughor; and the Manchester and Salford Extension; making together five new acts for railways.

DINNER TO MR. PAXTON, AT DERBY.

(See the Illustration at page 184.)

ON Tuesday, a dinner was given to Mr. Paxton, in the New Assembly Rooms, Derby, at which there were 300 guests. His Grace, the Duke of Devonshire accepted a special invitation, and was loudly cheered on his entrance, and during various parts of the interesting proceedings. Earl Granville would also have been present, but for the entertainments given in Paris. Mr. Fox's absence was also attributable to the same cause; but he was ably represented by his indefatigable partner, Mr. Henderson.

The chair was taken by Thomas Gisborne, Esq., who was supported by the High Sheriff of the county, the Mayor of Derby (Mr. Fox), the Mayor of Chesterfield, Mr. Strutt, M.P., Mr. Cavendish, M.P., Mr. John Ellis, M.P., Sir H. S. Wilmot, Mr. Geach, M.P., Mr. Evans, M.P., Mr. Heyworth, M.P., Mr. Mundy, M.P., Mr. Bass, M.P., Mr. R. Arkwright, Mr. W. P. Thornhill, Mr. J. Strutt, Mr. P. Arkwright, Mr. E. S. Pole, Mr. T. H. Barker, Mr. Peach, Mr. George, Mr. R. G. Gisborne, Mr. T. S. A. Shuttleworth, Mr. J. Sutton, Mr. Balguy, Mr. H. Bowdon, Mr. T. G. Radford, Mr. T. G. Crompton, Mr. W. Needham, Mr. W. Longsdon, Mr. James Barker, &c.



THE NEW ASSEMBLY-ROOMS, DERBY.

The assembly-room was tastefully decorated with flags, banners, festoons of flowers, and evergreens; and an excellent band was in attendance.

The Chairman, in rising to propose the first toast, observed that several gentlemen had been prevented from attending, owing to various impediments; and, amongst others, he might mention Earl Granville, one of the Royal Commissioners; and Mr. Fox, one of the contractors of the Building. He then read letters from Mr. Stephenson and Mr. Barry, who regretted their inability to attend. In conclusion, the Chairman proposed "Her Majesty Queen Victoria," which was received with three times three and prolonged cheering.

The next toast, which was drunk with all the honours, was "Prince Albert."

The Chairman then proposed "The Duke of Devonshire, the Lord-Lieutenant of the county," the mention of whose name elicited a most enthusiastic burst of cheering. The manner in which the toast had been received (the Chairman observed) showed the claim which his Grace had on the gratitude of all present; and he was not wrong in saying, that it was owing to his Grace's munificence that they had the honour of entertaining Mr. Paxton, for the great conservatory at Chatsworth was the prototype of the Crystal Palace. (Loud and repeated cheers.)

The Duke of Devonshire, on rising to return thanks, was hailed with several rounds of cheers. He said, that the kindness and indulgence of his Derbyshire friends were always the same to him. He was delighted to meet them on an occasion so interesting, and to find that so many had given their names and their sanction to the object that had assembled them. (Cheers.) He said, that a year ago, at a meeting held at Bakewell, to consider the new, magnificent, and, as it has now turned out, the eminently successful plan of his Royal Highness Prince Albert, for an Exhibition of the Industry of all Nations, the design, description, and explanation of the Building now called the Crystal Palace were for the first time made known to a public audience. The difficulties encountered by the Royal Commissioners had become appalling, and appeared to be every day increasing, till Mr. Paxton came, and with a plan as simple as it was stupendous, caused an immediate change in the current of public expectation. (Loud cheers.) At that Bakewell meeting he minutely described his intentions, which were certainly listened to with great astonishment. "I ventured," said the Duke, "to predict his success—(Cheers)—and I intended those who heard me to be under no sort of alarm, for Mr. Paxton had never yet failed in anything he had undertaken. (Loud cheers.) Gentlemen (continued the Duke), has not the event justified my sanguine assertion? and is it not clear that the method employed was not only the quickest way, but the only way by which the expectation of the whole world would not be disappointed. (Loud cheers.) The Duke proceeded to say, that it was an honour to him to have had his name connected with that great work; the perfection of it had astonished everybody employed and concerned. The compliment had often been paid to him of being the grandfather of the Crystal Palace—(Laughter and cheers)—which he thought had, perhaps, turned his head a little; but (said his Grace) it was not the possession of a few houses of glass and iron, serving, perhaps, in some degree as models; it was the mind of their inventor, well regulated, clear, and active; and the will, powerful and persevering, that had given importance to those objects, and had led him to the ultimate result; the mind, the integrity, the simplicity, and talent that had caused him to be what he is, the person whom they were met together to honour, to be connected with whom was his pride, and to possess whose confidence was as gratifying to his (the Duke's) feelings as his extensive services had been conducive to his worldly prosperity." (Vehement cheering.) His Grace then said that he considered Mr. Paxton most fortunate in having selected Messrs. Fox and Henderson for the execution of this great undertaking. Day after day, in the winter and in the spring, he had witnessed the unremitting zeal and ability with which Mr. Fox gave his constant and scientific attention to the colossal work in which he was engaged. (Cheers.) Much as Mr. Paxton had been for the last year the object of approbation, the Duke knew him to be a man of that high feeling and great delicacy, that it would have pained him to accept this token of admiration, had not a similar compliment been paid to his friend and associate in this town. (Cheers.) The Crystal Palace had had a respite, and it was to be hoped that its future destiny was secured; and quite sure am I (said the Duke), that, should the arrangements and regulations be confided to the inventor, its merits and advantages in a second state would be as striking and as well appreciated as they were in the first. (The noble Duke was loudly cheered on resuming his seat.)

Mr. Strutt, M.P., in proposing "The Royal Commissioners," said, if they had not had the candour to abandon all their preconceived notions, the Crystal Palace would not have been in existence, and the present assembly would not have had the pleasure of doing honour to the genius and originality of Mr. Paxton. (Cheers.) The Royal Commission contained in its number many of the most eminent persons in the country—men holding office under the Crown, men of all political parties, men of the greatest scientific eminence. But great and eminent as these persons were, their eminence was not enough to ensure success. It had often been remarked, that when great works were entrusted to bodies of eminence, their success did not equal the expectations entertained from their exertions, because a unity of purpose was sometimes wanting. (Hear, hear.) No complaint of this kind, however, could attach to the Royal Commission; and he could say without flattery that one great cause of its success was owing to its having at its head that illustrious Prince—(Cheers)—whose ability, judgment, indefatigable industry, and conciliatory deportment had been the great means of carrying the plan into effect. (Hear.) There was another member of that Commission who had rendered the most valuable assistance; he meant Earl Granville—(Cheers)—a nobleman not more distinguished by the high qualities of his mind than by the goodness of his heart. If there was one quality for which he was more distinguished than another, it was his amiability of disposition and courtesy of manners, which never interfered with the firmness with which he performed his duties. (Cheers.) He would now propose "The Royal Commissioners," who had performed their duties ably and successfully, conferring honour not only on themselves, but on their native country, in the face of Europe and of the whole civilised world. (Loud and continued cheering.)

The Chairman requested the attention of the assembly whilst he proceeded to propose the next toast—that of their distinguished guest, Mr. Paxton. (Loud and prolonged cheering.) He had known Mr. Paxton for many years, and nothing but the most kindly feeling had ever existed between them. But to-day he only knew him as the originator of the Crystal Palace. When Mr. Paxton's magnificent idea began to assume form and substance, it was absolutely necessary that some preparation should be speedily made for receiving the contributions that had been invited from foreign countries. All the constructive genius of mankind was invited to show how that object could be effected. Great architects and engineers began to knock their heads against ashlar stone and bricks, and to flounder amongst mortar and cement, when a gardener stepped amongst them, and said, "Gentlemen, there's nothing like glass and iron." (Cheers and laughter.) In this there might be something professional, for he was old enough to remember when the largest thing in existence that could be called a glass structure was a hand-glass to cover cucumbers. (Laughter.) Mr. Paxton, however, had covered the industry of all nations with a structure of glass and iron, and the notion had commanded the universal admiration of all mankind, except Colonel Sibthorp. (Laughter.) But, to speak more seriously, how many admirable qualities were involved in his plan? Many men looked to precedents; but what precedent was there to guide Mr. Paxton? From the hand-glass Mr. Paxton carried on the idea to the conservatories at Chatsworth, and then advanced to that magnificent structure which had excited the wonder of the world. (Hear, hear.) In Mr. Paxton's case there was the great quality of originality—he had almost said the audacity of genius. (Cheers.) Amongst the most valuable qualities which a man could possess, was the power with which genius brings other minds into co-operation with his own; and it was no small evidence of Mr. Paxton's genius, that he was able to secure the skilful co-operation of such constructors as Messrs. Fox and Henderson. (Loud cheers.) It was perhaps a singular thing that the inventor of metal tubes for railways was the first person who gave his sanction to the Crystal Palace. (Cheers.) The chairman then referred to the preservation of the beautiful Building, and the toast was received with thunders of applause again and again renewed.

"Mr. Chairman, my Lord Duke, and gentlemen,—If ever I laboured under a difficulty in my life, or required of my friends more than an ordinary share of their kind indulgence, it is on the present occasion.

"Overpowered by your kind response to the too flattering acount of me by my friend Mr. Gisborne, I ask you to forgive me if I fail to express to you as I ought my most heartfelt gratitude and thanks for this most distinguished mark of your public approbation. I am not so vain but I know how much of the praise you are good enough to award me is due to your own kindness; but it would be affectation more offensive than vanity, if I did not frankly acknowledge that I am proud of being connected with anything that has this day brought together so large a number of my friends. Were I to consult my own feelings, I should, after offering my fervent thanks in, I fear, most feeble words, resume my seat, and thus relieve myself of a rather onerous duty. But, gentlemen, I feel that this is no ordinary occasion, but one on which I shall be expected to do more than to return you my thanks. When the Exhibition, the great event of our times, was first propounded, I hailed it with unmixed pleasure; it appeared to me like a beam of light of vast magnitude, embracing a field of operation, the true advantages of which could only be felt in after times, when the great efforts made would unfold themselves in a thousand different and unlooked-for channels. This is the seed-time, the harvest will assuredly follow. Not only will the mechanical ingenuity of man find means for extended improvement, but the social nature of man will receive its rewards in the sweeping away of national prejudice, and establishing between nation and nation, and man and man, a kinder appreciation of each others worth, and a more charitable view of each others frailties. The first great fruits which the Exhibition has produced is now taking place at Paris. Nothing could be more hearty than the reception given to us everywhere from Boulogne to Paris. All appeared to vie with each other in giving us a cordial and hearty welcome. The magnificent reception given at the Hôtel de Ville might almost have shaken the prejudices even of Colonel Sibthorp. We have no place in England where such a dinner could be given as that of the Hôtel de Ville, and no place where there could have been so magnificent a reception. What has long been desired among nations, has been a more free and unrestrained communion of their inhabitants with each other. When this shall fully take place, it will not require the abstruse study which is now requisite for a Foreign Secretary or Minister to conduct the affairs of nations with satisfaction to all parties. I believe England has added another wreath to her Crown, in the glorious part she has taken in first establishing an Exhibition of all Nations. It is a rather curious fact that there never has been a National Exhibition similar to that of many other countries, and that we should then at once enter upon so gigantic a task as an Exhibition of All Nations before we had an Exhibition of our own. To his Royal Highness Prince Albert the world is mainly indebted for carrying out this most wonderful undertaking; and to his Royal Highness belongs the credit of having persevered through most difficult and harassing circumstances to so happy a result.

"It was while this magnificent scheme was passing over the shoals and quicksands that always beset great undertakings, that my humble efforts were called into request, and, at the risk of being thought tedious, I will venture to give you a short history of my connexion with it, and the reasons which induced me to furnish a plan.

"You are aware that as soon as the Royal Commission was formed, gentlemen were selected as a Building Committee; to this committee was deputed the onerous duty of devising a proper building for the Exhibition. Their first public act was to send out invitations for designs for a suitable structure. About 240 designs were sent in, but the committee not finding any of these exactly in accordance with their views, set about devising a plan of their own; and, on this being completed, they prepared detailed drawings and specifications for the purpose of obtaining tenders. The structure they proposed to erect was severely commented upon in the public journals, on account of the vast amount of bricks that would be used in its construction, and the permanent character of the work. It was not until this war of words was raging with great fierceness, that the thought occurred to me of making a design which would obviate all objections. Fortunately, at that time I was erecting a house of peculiar construction, which I had designed for the growth of that most remarkable plant, the *Victoria regia*; and it is to this plant, and this circumstance, that the Crystal Palace owes its direct origin.

"Being in London, and having to see Mr. Ellis, the member for Leicester, on business connected with the Midland Railway, I sought him at the Houses of Parliament, and found him at a morning sitting in the new House of Commons, which was held there on that day, for the purpose of testing its fitness for use. Sir Charles Wood was addressing the House; but not a word of what he said could be distinctly heard in the Speaker's gallery; upon which I observed to Mr. Ellis, that I feared they would make a mistake in constructing the Great Exhibition Building, and that I had some thoughts of sending in a design that would obviate the difficulties complained of. After a little further conversation, Mr. Ellis went with me to the Board of Trade to see Lord Granville. We did not find his Lordship within; but Mr. Henry Cole, one of the Executive Committee, happened to be there. I went to No. 1, Old Palace-yard, and after conversing for some time with Mr. Cole, I found that the Building Committee had advertised that the plans and specifications for contractors to tender would be ready in about a fortnight; and I also heard that the specifications would contain a clause by which those who tendered might also tender for designs differing from the plan of the Building Committee. From this moment I decided that I would prepare plans for a glass structure; and the first thing I actually did was to go to Hyde Park, and step over the ground, to ascertain the extent in length and breadth on which the Building was to stand.

"Having made an engagement to be at the floating of the third tube of the Britannia Bridge, I could not commence the plans until after my return; and it was at the Midland Station, in this town, in one of the committee-rooms, that the first mark on paper was made of the Crystal Palace; and the most remarkable fact connected with the Crystal Palace is, that the blotting-paper sketch indicates the principal features of the building as it now stands, as much as the most finished drawings that have been made since. In nine days from the time of making the blotting-paper sketch, I found myself again at Derby, with a roll of plans under my arm, on my way to London. These plans, five in number, had, with the exception of one, been prepared by me at Chatsworth; the one not prepared there had been made for me by Mr. Barlow, the eminent engineer of the Midland Railway, who kindly gave me his valuable assistance in calculating the strength of the columns and girders. At the Midland station I had the good fortune to accidentally meet with Mr. Robert Stephenson, who had come from Newcastle by the same train in which I was going to London. On our journey I showed the plans to Mr. Stephenson, and got him to read the specification. He expressed his unbounded admiration of the design, and promised to lay the plans before the Royal Commission on the following day, which promise he fulfilled. As Lord Brougham had said so much in the House of Lords against a brick building being erected in Hyde-Park, I waited upon his Lordship and explained to him the nature of my plans: from that day Lord Brougham has never uttered a word against the Exhibition building, but, on the contrary, his Lordship became my warmest supporter. I also showed the plans to Lord Granville before they went before the Royal Commissioners; and here I must remark, that to Lord Granville the country owe much in respect to the success of the Exhibition. The easy access and courtesy of manner displayed by his Lordship to all who approach him, added to most excellent business habits, has removed many difficulties that would not otherwise have been effected.

"After my design had been laid before the Royal Commissioners, and had been investigated by the Building Committee, and seen at Buckingham Palace by her Majesty and Prince Albert, I took the plans to New-street, Spring-gardens, and had the good fortune to find Mr Fox at his office. Mr. Fox was much pleased with the design, and at once agreed to go heartily into it. Mr. Henderson (Mr. Fox's partner) and Mr. Robert Lucas Chance, the great glass maker at Birmingham, were telegraphed to be in London early on Monday; and after a long consultation, my plans were sent to Birmingham for the purpose of having detailed estimates and drawings prepared. The Royal Commissioners were made aware of the fact of Messrs. Fox and Henderson's intention to tender for my design, and Mr. Cole went to Birmingham to counsel Messrs. Fox and Henderson to tender for covering the ground in the exact roof as marked out by the ground-plan prepared by the Building Committee. Mr. Brunel also suggested that the interior columns should be placed 24 feet apart, instead of 20, in order to suit the Exhibition.

"During the preparation of these plans and estimates, Messrs. Fox and Henderson came to Chatsworth to settle with me some of the more important details, and I went twice to Birmingham to see the progress of the plans and estimates. During the preparation of these plans, Mr. Henderson suggested the Transept. To this I at first objected. I did so on these grounds; namely, that, as the Exhibition was to be a fair competition of skill for all nations, I held it to be fair and right that each exhibitor should have an equal advantage as regards position, which they could not have with the introduction of the Transept: another objection I entertained was, that it could not stand in the centre of the Building, as the ground-plan was then arranged; but the moment Mr. Henderson said it would impart strength and solidity to the Building, I assented to its introduction.

"At length the day for sending in the tender came, but considerable delay took place before it was finally accepted. I have before stated, that, in order to get the tender in, it was necessary the Building should cover the exact space marked out by the Building Committee; but, in conforming to this plan, the Transept was obliged to be put into one side of the Building, for the purpose of avoiding the great trees which now stand within it, but which, according to the tender sent in, were to be in an open court. At one of the meetings with the Building Committee, it was suggested by them that the Transept should include the great trees; but there appeared at first sight a good deal of difficulty in accomplishing this, as at that time all the roofing was designed to be flat. We promised to see what could be done before the next meeting of the committee. I went direct with Mr. Fox to his office; and while he arranged the ground-plan so as to bring the trees into the centre of the Building, I was contriving how they were to be covered. At length I hit upon the plan of covering the Transept with a circular roof similar to that on the great conservatory at Chatsworth, and made a sketch of it, which was copied that night by one of the draughtsmen, in order that I might have it to show to Mr. Brunel, whom I had agreed to meet on the ground the next day. Before nine the next morning Mr. Brunel called at Devonshire House, and brought me the heights of all of the great trees; in the note containing the measurements Mr. Brunel wrote thus:—'I mean to try and win with our plan; but I have thought it right to give your beautiful plan all the advantages it is susceptible of.' I then showed Mr. Brunel the plan I had made the night before, for covering in the trees, with which he was much pleased. I have been led into these minute details, *first*, to show that the circular roof of the Transept was designed by myself, and not by Mr. Barry, as currently reported; *secondly*, to show the kindness and liberality of Mr. Brunel. At the time of the tender being accepted, the Building Committee asked me if I had any objection to my design being improved in some of its details; my reply was to the effect that I should have great pleasure in agreeing to anything that could be shown to be an improvement.

"I must here tell you how some alterations had become necessary. When the gallery columns inside were changed from 20 to 24 feet apart, it put the outer columns and outer sashes quite out of proportion as to distance; instead of there being one intermediate column and sash between the 20 feet opening, there were two intermediate columns and two sashes in the 24 feet: and the plan Mr. Barry made for improving this had my entire approval, because it brought back the design to its original proportions.

"As soon as my design had been accepted, it was decided by the Royal Commissioners to entrust the superintendence of its erection to Mr. Wm. Cubitt, the President of the Civil Engineers' Institute; and Messrs. Fox and Henderson had, as contractors, to submit the detail drawings respecting the strength of the Building for his approval.

"Just after the contract had been accepted, I was obliged to leave England for a month; and, at the last interview I had with Mr. Fox before my departure, in the presence of Mr. Leech, he promised that all should be carried out in accordance with the design, and that no alteration should be made without my approval. When I first thought of sending in a design, I had to consider, not only what I knew well myself, but what would be thought practicable by others; besides, I had to keep in view not only the probability of the mechanical realisation of my design, but also the possibility of its realisation within a given time. That I did not err in this last respect, I owe to the ability, energy, and transcendent skill of Messrs. Fox and Henderson; and if I have one word more than another that would express my approbation of their exertions, I should have infinite pleasure in using it. Not only did they arrange all the details for carrying on the works with great precision and speed, but they entered into the project with hearty good will; and there is a great deal of credit due to them for having taken up my design in the manner they did. The structure was an entirely novel and new one to them; previously they had no experience in the peculiar plan of roofing and drainage, which was for the first time brought before them in my plans for the roofing, and therefore they had to rely entirely upon my experience in all these matters. They ventured, however, to embark their money and reputation upon plans and information which no one had experience in except myself. They fully relied upon me, and I must say, they deserve immense credit for having thus ventured their fortunes and reputation on the faith of one man.

"If there had been sufficient time given, there would have been no difficulty in putting up the Crystal Palace—if a year had been afforded, instead of a few months, the accomplishment would have been comparatively easy, because the Building is composed of simple parts, and it only requires favourable weather and a multiplicity of hands to erect a building to any extent.

"Now, gentlemen, I wish to disclaim all part in the Building that does not belong to me. It has been said that 'it was a fortunate idea'; but the idea, though fortunate, was not a fortuitous one. It was the result of long study and long labour, without which no really practical idea can be worked out into a distinct and palpable design. The great experience I had in the erection of glass structures and the invariable success which had attended my exertions, emboldened me to produce that design, because I had not a doubt of its practicability, if properly carried out. I had two objects in view in offering a design: the first was, that my proposal would be exactly suitable for the exhibition; and, next, it would meet a long-cherished idea of mine for a National Winter Garden; so that, like Goldsmith's piece of furniture, it was contrived

A double debt to pay—
By nature dressed to-morrow,
As by art to-day.

"I have stated to you that the *Victoria regia* was the immediate cause of my sending in a design for the Crystal Palace; but the Crystal Palace does not derive its origin from the existence of that noble plant. No! It owes its erection to a nobler work of nature—the noble Duke whom I have had the honour and the pleasure to serve for more than a quarter of a century. It is to his fostering hand I owe all I possess; he took me when quite a youth, and moulded me according to his wants and wishes; he has given me all the advantages of extended travel with himself, which could not fail to produce fruit in due season; by his confidence and liberality I have had placed before me ample means for various experiments, and without which, depend upon it, there never would have been a Crystal Palace; and if there is one thing more than another that would enhance the pleasures of this day, it is that his Grace has done me the honour to be present to see the flattering tribute you have paid me.

"Gentlemen, one word more, and I have done. You can readily believe how great the anxiety and responsibility I imposed on myself when I undertook the design for the Crystal Palace; but believing that I could remove the many serious objections urged against the erection of a building composed of bricks and mortar, I considered it a duty I owed to my Sovereign and my country to waive all personal considerations, and do my utmost to save so grand a project from failure. From the day I sent in my design, to the time of the successful accomplishment of the Exhibition, my anxieties have been almost overpowering. I felt what must be my fate if by any accident my design should not be successfully carried out, and any failure would have reflected back upon me; but great as that anxiety has been, and laborious as have been my duties even up to the present time, this day's proceedings amply reward me, and give a triumphant finish to the whole.

"It is now twenty-five years since I came into this country a comparative stranger: you then received me kindly—that kindness has since ripened into friendship, and it has, I am thankful to say, been my happy lot to make 'troops of friends.' My public duties have been many and onerous, but in the performance of them it is my happiness to know that I have never lost a friend. The marks of respect you have shown me to-day will sink deep into my heart, and the recollection of it will afford me delight for the remainder of my days."

Mr. Balguy, in complimentary terms, then proposed "Messrs. Fox and Henderson," remarking, that whilst they admired the genius of the designer, they ought not to forget the genius and knowledge of those who carried such a magnificent design into effect. (Great cheering.)

Mr. Henderson, on rising to return thanks, was most enthusiastically received. After remarking on the candid and cordial manner in which Mr. Paxton had received and acted upon every suggestion which appeared likely to carry his great object into effect, he observed that an impression seemed to prevail that Mr. Barry was the originator of the circular roof for the Transept. Now, that was not correct; for Mr. Paxton originated it, and carried it out according to his intention. (Cheers.) He would endeavour to explain how the mistake had originated. One Saturday night, when the Commissioners sat late, it was suggested that some plan should be adopted for covering the trees. Mr. Barry had been absent every day during the week until that evening, and he knew the difficulty. Mr. Paxton had suggested that the covering should be by a circular roof. He did not think that Mr. Barry knew that arrangement, and on Monday morning Mr. Barry produced a sketch giving to the Transept a circular roof. This statement would reconcile the discrepancy which existed on the subject. (Hear, hear.) Mr. Henderson then expressed his gratitude for the valuable assistance which had been afforded to his partner and himself by all the parties with whom they had been associated during the construction of the work, particularly mentioning the names of Messrs. Dowson and Co., timber merchants; Messrs. Chance and Co., glass manufacturers; and Messrs. Cochrane and Co., iron merchants. He also expressed his high obligation to the parties more immediately in his own employment, specifying the names of John Cochrane and Charles Clark, who had exerted themselves in the most remarkable and praiseworthy manner during his illness. (Cheers.) Some remarks had recently been made on the perishable nature of the materials of the Building, and particularly with respect to the woodwork in the roof. Now, from his own experience, he had no hesitation in saying that the roof would last 100 years. (Loud cheers.)

Mr. Fox (the Mayor of the borough) returned thanks on behalf of his brother, from whom he had received a letter stating that it would have appeared an ungracious thing if both he and Mr. Paxton had been absent from Paris at the present moment, when the French people were displaying such unbounded hospitality in honour of the Exhibition and those more immediately connected with it. He added, "I need not tell you how highly I estimate Mr. Paxton's talent, and with what admiration I regard the great and lofty conception of his which has justly given his name a world-wide celebrity." (Loud cheers.)

The Chairman then proposed, "The High Sheriff of the County;" which was duly acknowledged by that gentleman.

Sir H. Wilmot proposed, "The Members for the County;" which was responded to by Mr. Evans and Mr. Mundy.

Mr. Sutton (the Vice-Chairman) gave, "The Borough Members;" who severally acknowledged the toast.

Then came, "The Mayor;" which was responded to by his worship.

Mr. Cavendish, M.P., in highly eulogistic terms, proposed, "The Chairman;" who briefly acknowledged the compliment.

The Rev. J. Sykes then proposed, "The Guild of Literature and Art." Mr. Foster responded.

The Chairman then proposed "The Strangers."

The toast was acknowledged by Mr. M. Lemon, and the company shortly afterwards separated.

The dinner, which was supplied by Mr. and Mrs. Huggins, of the Royal Hotel, was of excellent, kind and on a magnificent scale. The bill of fare included 10 haunches of venison, 10 necks of venison, and 20 venison pasties; nor were the famed "Bakewell puddings" forgotten. The dessert was of the most rare and delicious kind, principally from the Duke of Devonshire's gardens, at Chatsworth. There was abundance of English and foreign pines, grapes, melons, nectarines, peaches, apricots, &c. The wines, which were of excellent quality, included Johannisberg, Rudesheim, Hockheim, Marcobrunn, sparkling Hock, Moselle, champagne, Madeira, claret, &c.

A VISION IN THE CRYSTAL PALACE.

For many hours I had wandered through its gorgeous mazes, till my mind felt nearly as bewildered under the excitement of scenes so novel and splendid, as my limbs were weary. It was with a feeling of inexpressible satisfaction, that I at length dropped into a seat within sight of those green, ancient elms, so still above the moving throng, while at the same time my eyes fell upon the sweet refreshing waters flowing from the crystal fountain, and on the delicate flowering shrubs disposed with so much taste amidst the splendid ornaments and statues of this glorious Palace; the swelling tones of the magnificent organs, added to the fascinating influences of the place, rose and fell on my senses like the songs of distant angels. I thought upon all the wondrous works of art which I had beheld throughout that long day, and felt that man had indeed richly availed himself of the bountiful gifts of the great Creator—of that "rough produce," of those "raw materials," without which none of these splendid works of man's art could have sprung into existence. I looked on the crystal fountain, that amazing specimen of human skill and ingenuity. What a wonderful combination! sand—flint—alkali! Can these substances indeed have produced that fairy structure, as well as this light airy dome over my head? Then my eyes glanced on the liquid crystal, the pure, cool, flowing waters—what would that fountain be, after all, without its bright streams?

O fons Bandusiæ! splendidior vitro!
(O fountain of Bandusia! more brilliant than crystal!)

And yet, of the millions who may frequent this Palace, how many will only look upon these as secondary adjuncts, to set off the skill of the architect of the fountain; and those beautiful shrubs, and flowering plants of various hues, with those glorious old trees, will they be considered by the masses otherwise than as helps to decorate the splendid scene formed by the hand of man? * * * * * *

When this long day of excitement was over, and sleep at last visited my eyelids, it was not surprising that my sleeping thoughts borrowed their imagery from my day reverie at the fountain. * * * * * * * * It was a clear moonlight night, and I was wandering about the precincts of the fairy-looking Palace, and admiring its brilliant appearance, as it glittered in the bright beams of the moon. I could see within distinctly. All was silent and deserted. There I beheld the flags, and the embroidered tablets marking out the compartments allotted to the various nations of the earth, and there lay all their treasures in rich profusion. By that strange faculty of locomotive power which we often seem to possess in our dreams, I passed onwards, right through the glassy barrier, and found myself once more standing by the fountain. At first, all looked desolate, and a feeling of awe stole over my mind; but gradually a clear subdued light filled the place, composed of the loveliest blue and white, the silvery beams which it threw around penetrating to the remotest bounds.

What was my amazement, no longer to behold any of the works of man! All had disappeared! The elms still rose, silent and majestic; no waving branches gave signs of life, nor betokened any stir in the air; the silvery walls of the Palace, with its arched transept, glittered round and above me; but, as I gazed, to what an extent—to what a height—did they spread out! Even while mine eyes were looking on them, the more and more the expanse grew! 'Twas all dreamy, vast, and solemn! . . . What a Palace would this be in which to display the works of the great Creator! If man would assemble here some little portion of His great and marvellous works, would not the nations of the earth rejoice to come and behold them? To what a holy purpose might this vast structure be consecrated! even to the praise and glory of Him of whose marvellous acts there is no end; and if our hearts could be touched to feel their beauty, as well as our understandings enlightened to comprehend their worth, what years upon years (instead of days and weeks) might we pass here, and never feel satiated.

With a start of glad surprise, I once more looked around! Where in the daytime I had seen banners of crimson cloth inscribed with letters of gold, I now beheld inscriptions of the purest white *light* on a ground of lovely azure, like the soft clouds floating along the heavens on a calm bright day, when you can gaze upwards into the blue ether—"the deep serene." On one of these angelic banners, I read—

He hath given us richly *all things to enjoy.*

On another:—

By Him were all things made, and *for His pleasure* they are and were created.

On another:—

The earth is full of His riches.

And again:—

How manifold are His works, in wisdom He hath made them all.

And again:—

He doeth great things, past finding out, and wonders without number.

And so on, and on, all along those interminable vistas, waved the angelic banners: long I wandered, reading their bright inscriptions; but as I retraced my steps towards the Transept—wonder upon wonder! —I walked upon a verdant carpet of the softest green velvet, lovely flowers springing up all around me—the flowers of childhood's delight, the "wee, modest, crimson-tipp'd daisy," with its "silver crest" and "eye of gold," with bright yellow buttercups, and "Hope's gentle gem, the sweet forget-me-not."

But what a glorious sight beneath the dome of that transept! There I beheld, in stately order, all the trees which delight the sons of men—"every tree which is *pleasant to the sight*," and good "for food"—the stately spreading cedar—the towering palm, with its plume-like foliage—the banyan and the tamarind, the plane tree and the olive; then, again, the tapering fir and pine tribe—the drooping willow, the fluttering aspen, and the silver birch; and then, again, the oak, the sycamore, the elm, and the beech, the Spanish chestnut, with its white spiry blossoms standing up so firm, and the limes and lilacs and laburnums, with their gracefully pendent clusters.

Father, thy hand
Hath rear'd these venerable columns; Thou
Didst weave this verdant roof; Thou didst look down
Upon the naked earth, and forthwith rose
All these fair ranks of trees; they in Thy sun
Budded, and shook their green leaves in Thy breeze,
And shot towards Heaven. * * *
Thou hast not left
Thyself without a witness, in these shades,
Of Thy perfections: grandeur, strength, and grace
Are here to speak of Thee. This mighty oak,
By whose immoveable stem I stand, and seem
Almost annihilated,
Wears the green coronal of leaves with which
Thy hand has graced him. Nestled at his root
Is beauty, such as blooms not in the glare
Of the broad sun. That delicate forest flower,
With scented breath, and look so like a smile,
Seems, as it issues from the shapeless mould,
An emanation of the indwelling life—
A visible token of the upholding love
That are the soul of this wide universe.—BRYANT.

It seemed as though years and years were passing over my head while I wandered amidst these marvellous works, and meditated upon the wondrous contrivances which were so beautifully displayed in the adaptation of the varied kinds of trees to the climes of which they were the natives. I thought that an eternity might well be spent in contemplating their elegant symmetry, their diversified foliage, their beautiful adaptation to the wants and comforts of the races who wandered beneath their shades—when my senses were arrested by a fragrance so delightful, that words must fail to convey an idea of the soft perfume which, like incense, floated around me—that sweet incense mentioned by the poet—

The breezy call of incense-breathing morn,

Which seemed to convey "a blessing in the air." Beneath that airy dome, on one side, I beheld, rising to the utmost height, a brilliant glowing heap, a radiant mountain, composed of all the brightest and loveliest flowers of the earth, as if just plucked from their stems and thrown there in wild and graceful profusion. Bright tropical flowers of all shapes, and hues, and sizes—roses of various tints, from the purest white to the deepest red—lilies, heartseases, geraniums, verbenas, tulips, hyacinths, carnations, all kind of bright, spreading, twining, creeping, pendent blossoms, were there "expanding their light and soul-like wings."

Then I turned and beheld another beautiful pile—the lovely wild flowrets of the earth—gems that are "born to blush unseen, and waste their sweetness on the desert air." Weeds—weeds—I have always marvelled why we call any of God's works "weeds." To me they have always been mysteries. How beautiful they are, those bright little starry blossoms peeping out here and there, white and blue, and pink and yellow—"vernal flowers, with their *quaint enamell'd eyes!*"

Ye field flowers, the gardens eclipse you, 'tis true;
Yet, wildlings of Nature, I dote upon you,
For ye waft me to summers of old,
When the earth teem'd around me with fairy delight,
And when daisies and buttercups gladden'd my sight,
Like treasures of silver and gold.—CAMPBELL.

But see what gifts are still showered down for our use—lo! another golden crimson-purple heap! All the fruits of the various climes clustered together in rich luxuriance. What provision is here for the wants, the comforts, the luxuries of man! Not a month passing over our heads without bringing rich gifts in its train. Pine-apples melons, oranges, limes, lemons, bananas—for whom are all these glorious purple and golden fruits—the vine, "with a blessing in its clusters," the ripe bursting figs, juicy peaches, nectarines, apricots, and plums; transparent bunches of currants, white and red, how beautiful they are! mulberries, strawberries, raspberries, and all the nut tribe, what thought, what contrivance is manifest here! the cool juicy fruits for the hot and thirsty races of men, the fleshy firm products for the more temperate climes, and see—— Over these wondrous gifts floated the angelic "Banner of Love," inscribed at one end thus:—"Thou crownest the year with Goodness;" and at the other, "Heaven and Earth are full of the Majesty of thy Glory. Truly, indeed, hath the curse been removed; "Thorns and Thistles shall it bring forth to Thee!" Has that sentence been carried out? say, ye children of a kind and merciful Father? think of that first sad and dreary day on earth, when all the glorious trees and flowers, and fruits of Paradise, were lost to our parents, and they stood alone on the barren earth that was cursed for their sakes. Now, indeed, doth the "desert rejoice, and blossom as the rose." "Instead of the thorn behold the fig-tree! instead" of the briar doth come up the myrtle tree." But the wonders I beheld seemed to multiply at every turn; the waving ears of corn, the golden grains, the delicate green feathery grasses, who shall tell their numbers or their tribes?

Through all this long dreamy night I felt as if my life was passing on, on; but I knew not what it was to feel old or weary. Alone I was, but so absorbed in joyful adoration that I considered not that no other living creature passed by me, till suddenly there came "a change o'er the spirit of my dream," and oh, what bright and lovely *living* things I beheld! The feathered tribes, the songsters of the groves, trilling their loveliest notes; birds of paradise, with their graceful-bending plumage; bright, jewel-like humming-birds; peacocks, with their gorgeous spreading tails; stately ostriches, with their heavy waving plumes. The ground and the air, too, were teeming with life: all kinds of brilliant golden and green creatures, creeping, flying, rejoicing. "Some shone like gold, others were of the colour of silver or brass, some spotted, some striped, blue, green, brown, lilac. The heads of some were rounded like a turban, those of others drawn into the figure of a cone; here it was dark as a tuft of black velvet, there it was spotted like a ruby. There was not less diversity in their wings: in some, they were long and brilliant, like transparent plates of mother-of-pearl; in others, short and broad, resembling network of the finest gauze. All had different modes of disposing and managing their wings; some disposed them perpendicularly, some horizontally, some few spirally, and they seemed to take a pleasure in displaying them."*

It was a delight to see the birds floating hither and thither, some among the branches of the trees, some to the fruits, while out from among the flower-heaps what lovely transparent creatures flew; it seemed as though the very blossoms themselves were suddenly endued with life, and were about to float away in the air. Butterflies of all the varied hues of the rainbow, bright, sparkling, joyous creatures, full of light and life; azure, golden, lilac, crimson, white, pink, and blue and silver. Oh! who hath painted all these delicate wings with such exquisite taste and beauty? Take a wing from a butterfly, a feather from a bird, a petal from a flower (say a heart's-ease or geranium), even a leaf from a tree. What delicacy of texture! what elegance of design! what beautiful pencilling. Had each of these only been of one simple colour, truly they would have been marvellously beautiful; but who hath touched and retouched all these with such delicate shades and contrasts? Here a spot, and there a streak. Truly "for his pleasure they are and were created." For whom? for angels or for men? Surely we are not worthy to possess the humblest flowret that springs from the earth; had not the curse been removed in mercy, surely the very lowliest would never have gladdened the eyes of man.

Wondrous truths, and manifold as wondrous,
God hath written in the stars above,
But not less in the bright flowrets under us
Stands the revelation of his love.
Bright and glorious is that revelation,
Written all over this great world of ours,
Making evident our own creation.
In these stars of earth, these golden flowers;
And with childlike credulous affection,
We behold their tender buds expand,
Emblems of our great resurrection,
Emblems of the bright and better land.—LONGFELLOW.

But I had not yet seen all the treasures this wonderful Palace contained. Another heap, and yet another—beautiful shells and corals. What elegant graceful forms, what delicate designs, what wonderful contrivances are manifest here! And behold again those sparkling gems—diamonds and topaz and amethysts, sapphires and rubies, jasper, and opal, and emeralds; and look again here—precious metals and ores, gold and silver, and minerals—what forms and colours and strange varieties are here!

Still my dream continued, my life seemed passing slowly away—long long years, and I distinctly felt that I never could satiate my eyes with the objects before them, never could fully comprehend all their mysteries.

All along those interminable aisles, on both sides, I beheld the four-footed animals of the creation passing along, from the largest and stateliest of antediluvian growth down to the very tiniest little creature that burrows in the earth. Far, far beyond the glassy precincts the wondrous procession onwards passed; and through its transparent walls on one side I beheld the waters of the ocean rolling on, and bearing along on its waves all that have their being within its bounds; while on the other side flowed a calm shining river, through whose blue transparent waters were visible the bright inhabitants of that fresh element. Oh, that peaceful, lovely scene!—may I never forget the sweet vision! Then, indeed, did I seem to behold those beautiful objects so touchingly painted by the inspired writers. "How goodly the ligne aloes by the water side! how lovely the trees planted by the rivers of water, bringing forth their fruit in due season, the fig-trees putting forth the green figs, and the vines with the tender grapes giving a good smell, and the pomegranates budding forth." And beyond these what a goodly land, "A land of brooks of water, of fountains and depths, that spring out of valleys and hills; a land of wheat and barley, of vines, figs, and pomegranates; a land of oil, olive, and honey." And far, far beyond, in the blue and purple mists rising up to heaven, "the everlasting hills." Above, below, around, everywhere, life, in all its multiplied forms, and provision for every living thing! Down far into the bosom of the earth—far, far into the unfathomable depths of the ocean—far above in the unseen heights of the air—all is thronged with *living beings. Life* under an infinite variety of forms, adapted to a variety as infinite in the qualities of the material things which surround it, *permeates* these mighty regions."† But more: "There are *unseen living things* whose *shadows* only the most perfect appliance of artificial vision has yet reached!"

As I pondered on these wondrous works, and gazed out on the beautiful landscape, the same hurried impulse by which I forced my way into the Palace seemed to urge me on. I passed out in thought into the cool fresh air: millions of worlds, visible and invisible, were rolling on in their silent courses; all, all, doubtless, as full of life as this sphere below; all as radiant with glory and beauty; and my heart felt awed within me. Gradually the bright orbs paled away until they disappeared, and brilliant golden and roseate beams announced the rising of the glorious orb of day: the visions of night and the realities of day became blended together, and I awoke as the bright beams of the rising sun shone through my uncurtained window. J. W. B.

THE CRYSTAL PALACE AND THE VICTORIA REGIA.

(*To the Editor of the* ILLUSTRATED LONDON NEWS.)

What an admirable place the Crystal Palace would be for the cultivation of this magnificent plant! It is hardly possible to conceive a more grand, novel, or interesting sight than the *Victoria regia* would present, surrounded by all the species of *Nymphaceæ*, in one noble central aquarium, where the public could view it without the danger of being stewed in a reeking atmosphere. The surface temperature in winter need not exceed 45 degrees, as suggested by Mr. Paxton as the necessary warmth desired for the interior of the building; bottom-heat could be supplied by piping connected with a boiler, which, at a very trifling expense, would warm the whole Building. If the idea is carried out of converting the Crystal Palace into a winter garden (water being an essential feature in a garden), it would not be complete without it. I would in this case suggest that the aquarium be stocked with gold and silver fish, which would keep the water gently agitated, and would have a very lively appearance, and prove conducive to the health. The whole might be enclosed by an ornamental iron railings to prevent accidents to the junior members of society.

King's-road, Chelsea, August 3, 1851. We are, &c., J. WEEKS and Co.

ORDNANCE SURVEY OF SCOTLAND.—The select committee appointed to inquire into and report on the present state of the Ordnance survey of Scotland, and on the works which will be required for its completion, have issued their report, together with an account of the proceedings of the committee. It appears that the sum of £750,000 has been spent in the survey of England, £820,000 in 22 years on the survey of Ireland, exclusive of £200,000, the estimated expense of revising and contouring the map of Ireland, which is now in progress, while in Scotland only 1-60th of the whole country has been surveyed and published, and the average annual expenditure in the survey since its commencement in 1809 has been only £2418. The following are the recommendations made by the committee upon the subject:—"1. That the six-inch scale be abandoned. 2. That the system of contouring be abandoned. 3. That the survey and plotting on the two-inch scale be proceeded with as rapidly as is consistent with accuracy, with a view to the publication within ten years of a one-inch map, shaded and engraved in a manner similar to the Ordnance one-inch map of England, with as many elevations as possible given in figures. 4. That the survey be proceeded with steadily from south to north, as was the original intention. 5. That the suggestions made by Mr. Brunel (A 294) be adopted. Your committee, in conclusion, beg to call your attention to the important fact, that, if the above recommendations are adopted, a saving to the nation of no less than £500,000 will be effected. Your committee, therefore, feel that they can confidently recommend such an increase of the annual grant as will complete the publication of the survey of Scotland, as proposed, within a period of ten years; so that some, at least, of the present generation may hope to live to see it finished."

The accounts just received from the mining districts of California, both north and south, represent the operations as being very successful. There is more activity, and more gold is probably being got out than at any former period in the history of the Californian mines.

* St. Pierre. † Moseley.

LITERATURE.

The Life of Edward Baines, late M.P. for the Borough of Leeds. By his Son, Edward Baines. Longman.

This is the biography of our English Franklin. His life is divided between Preston and Leeds—the first partakes in the renown of his nativity, the second in that of his activity. The name of Edward Baines is connected with provincial journalism. The *Leeds Mercury* grew, under his hands, from a poor pamphlet to an important newspaper, an influential organ of public opinion, that at last availed to lift its editor and printer into Parliament, and to lay the basis of the fortunes of his family and his children. The records of his diligence extend over many years—from 1774 to 1848; and his biographer has connected these with the political events that happened during this long interval. Thus it is that the life of Edward Baines becomes identified with the history of his times. We have little indeed in this volume of private biography. Mr. Baines lived all his life in public; his fortunes were those of his country. Truly said he, when reflecting on his past life, and preparing for death, "that his business, like the British Constitution, seemed to have grown up gradually." He was well satisfied, too, with the politics and religious principles on which his journal had been conducted, but complained of his want of intense feeling in regard to the latter. It was this want, probably, which led him so safely through the perils of his position. He was the very type of an industrious, respectable man, to whom all work and little play was the element in which he most delighted. At the end of his career, he felt that he had much more than the average amount of comfort and happiness in this world, and ought not to repine at the common destiny. He had through his life displayed, in the words of his biographer, "manly firmness in conflict, modesty in conflict, and hearty earnestness in the cause of humanity and freedom."

Mr. Baines's life is almost that of the newspaper press—small in its beginnings, but acquiring in its progress prodigious power. Provincial journalism was, at his commencement in business, of a very humble character. According to an official statement, there were in 1724 only twenty-eight printing-houses out of London; and the informer against these—one Samuel Negus, a London printer—stated that "the country in general copy from the rankest papers in London, and thus the poison is transmitted from one hand to another through all his Majesty's dominions." But local newspapers increased in number with the general improvement in the intelligence and circumstances of the people. When the *Leeds Mercury* came into the hands of Mr. Baines, the circulation was about 700 or 800, and the paper one-eighth or one-ninth of its present dimensions. Up to the year 1801, it had no editorial comments whatever: all the political paragraphs were then extracted from the London papers; and the duties of the editor were such as are now discharged by the "sub." The paragraphs of local news were chiefly original, and were either written by the editor from the information he gathered, or were furnished by unpaid correspondents—reporters were wholly unknown.

"It may seem scarcely credible that a nation, at that time and long before boasting statesmen, orators, and men of letters worthy to be compared with any of Greek or Roman name, should have had a periodical press so utterly disproportionate. We should scarcely believe the fact, if the newspaper files were not before us to prove it. Whilst Burke, Fox, Pitt, Sheridan, and Erskine fulmined in the senate or at the bar, and whilst events were occurring in Europe vying in interest with any in the history of the world, the English newspaper press (almost the only periodical press then existing) was such as might have been judged barely adequate to satisfy the intelligence and curiosity of the rustics in a small village. This was the case with almost all the entire provincial press; and the London daily papers were only emerging from the same condition. Woodfall, Perry, Walter, and Stuart had commenced the great improvement; and the pens of Southey, Coleridge, and Lamb were employed occasionally in their papers. The literary and scientific periodicals of that day, with few exceptions, were on a par with the political journals. In 1798, Gifford, Canning, and their Tory coadjutors had established the bitter and brilliant *Anti-Jacobin Review*; and, in 1803, the *Edinburgh Review*, set on foot by Sydney Smith, Brougham, Jeffrey, and Horner, rendered important service to the Whig party, and gave an extraordinary impulse to literary criticism. Of course, there was then a noble literature issuing from the press in volumes, but even this was most inadequate for the supply of a people possessing the natural capabilities of the English. Mr. Charles Knight, in the postscript of his 'Biography of William Caxton,' informs us, from an examination of the 'Modern Catalogue of Books,' that from the year 1792 to the end of 1802, the annual number of new books published in Great Britain was 372; whereas Mr. McCulloch, in his 'Dictionary of Commerce,' states that 'at an average of the four years ending with 1842, 2149 volumes of new works, and 755 volumes of new editions and reprints (exclusive of pamphlets and periodical publications), were annually published in Great Britain.' There has, therefore, been a very great extension of our book literature within the present century, though not to be compared with the extension and improvement in our periodical literature.

"All these facts would lead to the conclusion, which we know from more direct evidence to be the true one, that until the present century the great mass of the people were uneducated, and therefore unable to avail themselves of newspapers and magazines, even if they had existed. Authors of volumes may find among a great nation 'audience meet though few,' even in the very low state of popular instruction; but a cheap periodical literature requires the support of numbers, and cannot exist without a reading people. Though knowledge had been progressive for centuries in England, yet it is notorious that at the beginning of the nineteenth century the great bulk of the working-classes were unable to read; and even among the middle classes the habit of reading was very different from what it is at present. It is, therefore, extended education that has chiefly produced our periodical literature, and that periodical literature has in turn stimulated education."

The subject of the present biography was the son of Richard and Jane Baines of Preston, in Lancashire; and was born 5th Feb. 1774, at Walton-le-dale, a village in the beautiful valley of the Ribble, about a mile from Preston. One incident, known to his boyhood, determined the bias of his politics. His father wished to set up as a grocer in Preston; but not having served an apprenticeship to the trade, the laws of the corporation prohibited his doing so, under the penalty of forty shillings per month. This prohibition Mr. Richard Baines disregarded, and became subject to an indictment at the borough sessions, the pecuniary consequences of which rendered his removal necessary. "The knowledge of the persecution his father had suffered from a Tory corporation had an influence on the son's mind in future life."

Mr. Richard Baines became subsequently a cotton-spinner and manufacturer. Edward was at first intended for the same business, but he preferred that of a printer, and was apprenticed, at the age of sixteen, to Mr. Thomas Walker, of Preston, who, in 1793, started the *Preston Review*. With this gentleman, however, Edward did not stay until the end of his apprenticeship, but served the last two years with Messrs. Binns and Brown, of Leeds, the proprietors of the *Leeds Mercury*, which was destined, in the course of time, to become his own. At the end of his apprenticeship, he formed a partnership with Mr. Fenwick, which was dissolved in 1798, and Mr. Baines carried on business separately, and connected himself with the dissenting interest, and a debating club called the "Reasoning Society." Among its members was Mr. John Talbot, whose sister, Miss Charlotte Talbot, a religious young lady, Mr. Baines married.

"When Mr. Baines was the accepted suitor of Miss Talbot, the match was nearly broken off; for Mr. Talbot had heard an evil report of the 'Reasoning Society,' and felt some doubts lest his intended son-in-law might be apprehended under the suspension of the Habeas Corpus Act! The fear may seem absurd, for assuredly there has seldom been a man less seditiously disposed, or more fully engaged with his own honourable pursuits. But the fact is mentioned as an illustration of those days of terror. Mr. Talbot actually withdrew his consent from the marriage when it was just about to take place, and on no other ground than this. But the young people, having previously had his approval, did not feel themselves bound to sacrifice their happiness in consequence of an alarm which they knew to have no just foundation. They married on the 2nd July, 1798, and Mr. Talbot soon approved of the step, and took his son-in-law into favour."

In the month of March, 1801, Mr. Baines became the proprietor of the *Leeds Mercury*. The public events of 1807, the great Yorkshire election, and the defeat of the Hon. Henry Lascelles, by Lord Milton, drew out his talents as a controvesial writer; and, at a much later period, his energies were displayed in the detection and exposure of the notorious Oliver, the spy. Mr. Baines was also early a free-trader, and supported Mr. Huskisson's measures. In 1824 he resided eight months in London; and during the years 1825 and 1826 he visited Belgium, the Rhine provinces, Switzerland, Italy, and France. In 1833 he became M.P. for the borough of Leeds and West Riding of York, and continued such until 1841. After his retirement from Parliament, he filled the office of a magistrate for Leeds. His death took place, August 3, 1848; an event which drew forth a remarkable manifestation of public sympathy.

Such is the outline of a work which holds up an example to the rising generation, and in its topics touches on the principal public events of the times to which it relates. It is full of instruction, and ought to be extensively read.

The Irish Land Question, with practical plans for an improved Land Tenure. By Vincent Scully, Esq., Q.C., Dublin. Hodges and Smith, Grafton-street.

The Irish Land Question is one of the most difficult subjects that ever perplexed statesmen and public writers; but it is now nearly settled by the Encumbered Estates Act, and the diminution of the population of Ireland. The present race of indebted landlords will be sold up, and the future owners of the land, having a reduced and scanty body of tenants and labours, will be obliged to act more fairly than their predecessors. The first part of Mr. Scully's book, which treats of the "temporary land question," refers principally to the losses of the existing landlords; and he complains of the "statutes passed within the last few years which have diminished the price of agricultural produce;" and have been, he implies, the causes of the landlords being involved in distress. He suggests that a particular tribunal should be appointed to investigate every special case of landlord hardship, which should reduce all the charges on the land in proportion to the reduction of the price of produce. That might have been considered before the Encumbered Estates Act had come into operation, but now it might add to the injustice complained of. We believe, too, that the operations of such a tribunal would have been stopped at the threshold. No person dreams of compensating the landowners for a natural fall in price, and leaving them all the benefit of a natural rise in price; and the impossibility of distinguishing at any time between the reduction of price caused by statutes, or by improved agricultural processes, peculiar seasons, a general striving after cheapness, &c., must ever make the working of such a tribunal impracticable. The parties to the different bargains for the use and ownership of the produce of land may settle such matters by their mutual higgling. The state may abate its own demands on the landowners; no tribunal could effect a fair adjustment: and we may, therefore, dismiss all consideration of the temporary land question, because it is decided and inevitable, what the tribunals proposed too late, would have been utterly impracticable if proposed earlier.

As to the permanent land question, no person doubts the necessity of a proper appropriation of the land, and of establishing justice as the rule between all connected with its ownership, occupation, cultivation, and distribution of its produce; nor can any person doubt that the multiplied confiscations which took place at former periods in Ireland, and the continual absence of justice subsequently from the relations of land ownership and land occupation, are the main causes of the evils of Ireland—the *fons et origo malorum*, as Mr. Scully expresses it. But for them nobody is or has been so much to blame in these latter times as the landowners, who have had legislation in their own hands, who have made laws for their own purposes, and who are now the victims of their own regulations. We cannot pity them, but the future fate of Ireland demands a simplification and an improvement of the laws, justly called "a farrago" by Mr. Scully, which concerns the tenure of the land. "It may be doubted," he says, "whether the old feudal regulations were more injurious to the State and the people than the undigested mass of modern legislation, which now confuses the relationship between landlord and tenant in Ireland. He therefore proposes an entirely new arrangement, which, if it be worth anything, should be as applicable to England as to Ireland. In fact, the laws of the two countries on this subject are at present pretty much the same, though they are very differently worked out by the opulent independent English yeomen and by the poor Irish peasantry. We are certain, however, that Mr. Scully's plan would not be favourably regarded in England.

He proposes that a special tribunal shall be constituted, to be called the Land Tribunal. It is to be called into activity only by the united application, in writing, of occupiers and owners, or that of the owners only being also occupiers. The tribunal, on such an application, is to have a map made of the land, *to ascertain its fair letting value*, and examine the title. It is to declare that the land is to be held under the new system. The tribunal is then to create land certificates of £25 each, of a first and second class, to the amount of what the owners and occupiers agree is the selling value of the land. The whole value of the land, both to the owners and occupiers, will thus be represented by certificates of £25 each, which will constitute the title to each person's interest in the land, and may be disposed of by them—the tribunal having a power to give these certificates to the owner, as he is the absolute master of the property, or to other persons having claims on the land. All sales are to be made by the land tribunal, which would consist, we presume, only in transferring the certificates from one party to another. In the author's opinion, the conversion of property in land into land certificates of equivalent value, would render it as transferable as personal property. Mr. Scully also proposes that the land tribunal shall be at liberty to issue land debentures on the security of the land, not exceeding ten times the amount of its fixed annual value; and he describes these debentures as a material part of his scheme, to reject which would be to reject the whole. It is the union, then, of a new kind of stock, or issue of a particular kind of paper-money, based on the security of land, as well as a supposed simplification of land tenure. It is a repetition of the old plan of borrowing, to borrow being apparently the soul of an Irish landlord. We own we do not comprehend the system; we cannot see any good mercantile rule for creating debentures, in conjunction with the certificates; nor how it is possible to ensure the land to be of the same value ten years hence as now, on which the value of security on the debentures and certificates will depend; nor any reason why the value of the respective shares of landlords and tenants at present is to be the perpetual rule hereafter for the value of the shares; nor any justification of an avowed attempt to convert the temporary interest of the tenant into a perpetual interest: and not understanding all these matters, we are loth to give an adverse opinion of Mr. Scully's scheme, which concerns a subject which so much requires improvement as the tenure of land in Ireland. We think, however, that it proceeds entirely on the erroneous principle of settling value, the terms of contracts in minute detail, and making sales by laws, all of which can only be done by private contract and mutual convenience. Already the law is too complicated, and he would make it more so. He thinks that a fixed valuation by a public tribunal can alone guard against the evils of rack rents; but if the tenants are not in a condition to protect themselves against rack rents, no law can ever give them protection. We admire, as much as Mr. Scully, Free Trade in land, but we cannot see how that can be given by a tribunal, possessed of power not merely to enforce contracts, but to enforce a great number of regulations, each of which is a contravention of freedom. The tribunal itself is contrary to Free Trade. We are afraid that this subject is very imperfectly understood. All that the law can be required to do, and all that it should attempt, is to determine the conditions on which land should be appropriated and held as private property; and that being determined, the law should be content with enforcing all the contracts that may be made by the landowner as by other men, without bestowing on him any of the privileges—such as the law of distress—which are supposed to be for his advantage, but which turn out to be for his injury. Mr. Scully's scheme is, we believe, so erroneous in principle and complicated in detail, as to make a further examination of it unnecessary. The most useful part in the book is the Appendix, consisting of historical information and descriptions of Ireland by different hands at different periods. Unfortunately, the wrong, which they inform us was committed long ago, cannot be remedied. Nature, indeed, with a kindly hand effaces, though slowly, the evil man does, but it is beyond her power to repair it. It must be suffered; and, in general, his attempts to remedy it, only, as in the case complained of by Mr. Scully, repeat and extend the evil.

The Spanish Protestants, and their Persecution by Phillip II. By Senor Don Adolphe de Castro. Translated by Thomas Parker. Charles Gilpin, Bishopsgate-street Without.

The progress of the Reformation in Spain in the sixteenth century is one of the most curious and least known points of the history of religion in modern times; and we are thankful to Mr. Parker for the information he has supplied us with concerning it. This book is the biography of a considerable number of Spaniards, men and women, who embraced the Protestant faith, and most of whom were persecuted and slain, but it does not give a connected history of Protestantism in Spain. The biography is mingled with humorous anecdotes. Thus we read, that John Man, the Dean of Glo'ster, who was accredited to Phillip by Queen Elizabeth, was first reproved by the King for speaking lightly of some religious processions at court, and then positively ordered out of the kingdom by the jealous Monarch, for saying that Phillip II. was the only Monarch of Europe who defended the Roman Pontiff. An anecdote of a totally different character teaches us that cruel persecution was the vice of the age or of the Spanish character, and not peculiar to Phillip and the inquisitors. One gentleman in Valladolid, in 1581, being affronted that his pure Castilian blood should be tainted with heresy, denounced his two young and blooming daughters to the Inquisition as heretics. On his solicitation, they were condemned to be burned alive. From his own estates he brought the wood for burning them; and when they were tied to the stake, he kindled the flames with his own hands, and reduced his two children to ashes. The man was held up as an example to other fathers by the barbarous Inquisitors, who in this manner inculcated the greatest of crimes as a religious duty.

Don Carlos, the eldest son of Philip II., died young. Between him and his father there had been alienative disputes and quarrels for some years. Some persons have attributed to Don Carlos a passion for the second wife of his father, Isabel of Valois, to whom he had been betrothed when a child, and whom his father, on the death of his first wife, had taken to himself. But this legend is more poetical than true. There is no doubt that Don Carlos united a strange mind with a vehement disposition; and he had established some connexions and relations with his father's Protestant subjects in the Netherlands, if he had not embraced the Protestant faith. His health was weak which placed him at the mercy of medical men, as well as much under their care. Whether he was poisoned or not by the orders of Philip II., or died from want of skill in the doctors, or from natural causes which no skill could avert, is doubtful. It is, however, certain, that while he was at enmity with his father, and placed in confinement, he died; and hence arose an accusation rife in Protestant countries, that he was poisoned by his father's orders. The author is inclined to adopt the latter opinion, and to affirm that Carlos was murdered because he was a Protestant. As his end approached a curious incident is related. Phillip did not like to appear in the presence of Carlos, and yet he wished, consistently with his character, to appear to do something for his son, and, accordingly, he "threw his benediction in to him, or pronounced a blessing on him, at one of the doors of the apartment, over the shoulders of two of his courtiers." The book is just now of peculiar importance, as supplying additional proofs of the cruel lengths to which a false faith in the unknown can drive us. In all such cases we act from the imagination exclusively, which has complete dominion over the mind, and allows it no test of truth or falsehood but itself. To warn men against its effects, books of this kind may be read; and those who wish to know the length to which it has driven the Spaniards, should read the "Spanish Protestants" of De Castro.

Manual of the Anatomy and Physiology of the Human Mind. By the Rev. James Carlile, D.D. Arthur Hall, Fisher, and Co., Paternoster-row.

Dr. Carlile is a modest man, who takes no more credit to himself than he richly deserves. He calls his book a manual, because it is an outline, without giving in detail the trains of reasoning by which the mental phenomena have been ascertained; and because he has succeeded in providing a useful and instructive book for the educated classes, while he makes no boast of originality, and repudiates all claim to the distinction generally so much courted of being a discoverer. Yet a neat, concise, intelligible way of putting a fact or explaining a truth that has before been noticed, so as to give it life in many minds, while it lay before dead and buried in some unread or forgotten book, is equivalent to originality, or to making a discovery—and this Dr. Carlile has done. The original discoverer read the fact or the truth in the book of Nature; Dr. Carlile reads it in his book, and has the merit, which the first discoverer wanted, of making it the common property of a great number. Thus, his descriptions of sensation, of memory, or perception, of the faculties of animals, of our bodily motion, and of other motion, such as that of the globe, as the source of our knowledge—of an eternal world, and of the vastness of creation—of the means by which minds affect minds, though they contain nothing positively new, are better adapted to make these parts of our nature familiar to the reader than the more elaborate works from which he has drawn his materials. We cannot say that all the points in the extensive and abstract subject he treats of are equally and satisfactorily elucidated—we cannot say that many parts are not yet open to controversy; but we can say, that the whole are treated in a plain, concise manner, so as to make Dr. Carlile's a very useful book, if the subject forbids us to hope that it be a very popular one. We forbear from entering into any controversy on particular subjects, while we bear our testimony to Dr. Carlile's general merits. From such publications being now somewhat numerous, it is to be inferred, that the study of the mind is reviving amongst us, which is desirable, as that only can lead to a solution of many important problems connected with education, legislation, and the fine arts. How mind can most effectually and advantageously influence mind lies at the basis of all criminal law and all government; and Dr. Carlile shows, in common with many others, that the communication of thought and fact is most influential and most beneficial, when the communication is wholly dissevered from coercion, violence, or threats. In that statement lies the germ of all reasoning against the use of the gallows, or the practice of war. It may be described as the hard, material, metaphysical, matter-of-fact vindication of the great poetical and philanthropical doctrine, that love is the soul of the world; and that society can only be kept together and governed as a family is kept together and governed—by love, and not by brute violence. In metaphysics must we seek for the principles on which our political systems can be reformed; and we trust, therefore, that Dr. Carlile's book will help to bring the study of the mind again into fashion. Man is said to be created after the image of God, and only by the study of the mind can we reach to any comprehension of that truth. Experience and Bacon have taught us that the mind is gradually formed—modelled, as it were, by the senses on the universe; and if that be what is meant by the saying, as the mind of man is now becoming a reflection or image of the universe, a glorious future, indeed, as knowledge is acquired, awaits the human race. Leaving such a high speculation so briefly touched on, let us also leave Dr. Carlile's book, which deserves to be much and attentively read, by quoting a short passage, which illustrates a familiar fact, and carries with it an important practical lesson:—

"The dull man, on this principle, who adopts a rule of almost any kind, brings to his aid a great power of nature, and, in the long-run, will overcome and surpass, in worldly success, the man of genius, who is led, by the vivacity of his sensations, to disregard the rule by which they are made to recur in a certain useful order."

The Process of Thought adapted to Words and Language. By Alfred Smee, F.R.S.

We learn from the preface to this work, that the general term Electro-Biology signifies neither more nor less than the relation of electricity to the vital functions; and Mr. Smee, who is an electro-biologist, applies his art in the present work to explain the operations of mind. "Electro-biology," he says, "teaches that man receives impressions from the external world through the medium of his organs of sensation; transmits those impressions to the brain, and there registers them in certain combinations in such a manner as to render the sensorium one vast mechanism, in which everything that has been heard, or seen, or felt, or smelt, or touched, has produced an effect which modifies the action of any impression which may be subsequently received." On this principle Mr. Smee gives an explanation of thought, and of what he calls the relational and differential machines. As we have not the good fortune to be electro-biologists, and do not, therefore, comprehend very clearly Mr. Smee's system, we must refer such of our readers as love puzzles to the book itself. We believe, before we read the sentence we have quoted, that observation, not electro-biology, had taught us that impressions from the external world are received through the organs of sensation, and conveyed to the brain; and we presume, therefore, if we may venture to differ from Mr. Smee, that electro-biology only teaches the registration of the impressions, and all that follows in Mr. Smee's explanation. What electro-biology does not teach is an admitted fact; what it does teach, if we comprehend Mr. Smee, seems very doubtful. Mr. Smee, apparently doubtful himself, says, in another passage, that "the action of external objects transmitted to the sensorium is *probably* registered in a certain combination of nervous elements," &c. Mr. Smee will be better able, we think, to enlighten mankind on this "registration of impressions in a certain combination of nervous elements," when he is himself quite sure of the matter. When that is the case, we shall hope to understand him better than at present, and to find more instruction from his writings than we have found in his present production.

Lives of the Princesses of England. By Anne Everett Green. Vol. III. Colburn, Great Marlborough-street.

After a long interval, the third volume of this interesting and peculiar series of biographies has made its appearance, with a promise that the concluding volumes of the work will be published as early as consistent with due attention to their accurate completion. The necessity of consulting foreign works accounts for the delay. To write the biographies of the Princesses, is a worthy occupation for a female pen. It is done, too, in a ladylike and loving spirit; and is perfectly fit for ladies' reading. The authoress unites some of the minuteness and care of a genealogist from the Heralds' College with the grace of an accomplished writer; and her book may become an authority on some trivial matters for historians, while it will be sure to gratify the curiosity and taste of her sex. The present volume contains notices of twelve princesses, two of whom died in their infancy. It begins with Elizabeth, eighth daughter of Edward I., and ends with Margaret, daughter of Edmund IV. If such biographies appear, in some cases, trivial, they enable the authoress to recount many obscure anecdotes of the Royal families and their connexions; and the continuation of her work will be cordially welcome—particularly by readers of the softer sex. Many of the lives are romances with the verification of dates and circumstances, and from such quarries romances have in all ages been dug.

A First German Reading-Book. By Falck Lebahn.

The very general study of the difficult language of our Saxon cousins has given rise to a great number of German grammars, reading-books, and other helps. Grammars are indispensable, and reading-books, or rather collections from different authors for the use of learners, are desirable; but we protest against any attempts to teach pronunciation otherwise than *viva voce*. Mr. F. Lebahn's books are well calculated to serve the purpose for which they are intended, with the exception to which we have just alluded; and here he fails, because he attempts the impracticable.

A Little Earnest Book upon a Great Old Subject; with the Story of the Poet Lover. By William Wilson. Illustrated by Alfred Crowquill. Darton and Co.

The "great old subject" of this "little earnest book" is poetry. There is in it more of instinct than of form. Frequently the style is feeble, though sometimes elegant, and always aiming at elegance. The writer, however, is constantly true in spirit and sentiment, even when faulty in its expression. One citation will sufficiently prove that he is a courageous thinker:—

"We are accustomed (and as an accepted custom in ordinary conversation or writings, it is well enough) to term the innumerable inhabitants of the many mysterious worlds amidst which we dwell, dumb. Now we have no right to assume that any of the various classes of living creatures around us are dumb, because we are ignorant of their language, and they of ours. We are convinced, from observation, that many of those animals which we usually term dumb animals, have a distinct language, or mode of communicating their wishes and desires to each other, by means of mutually understood sounds. Any species having a power of conversing by sound, possess a language, and cannot, therefore, be justly considered dumb. Besides, can we say for certain, that the more minute and diminutive of the insect tribes have not a language of understood sounds, so low and soft in tone as to be beneath the reach of our capability of hearing?

"We know that when we gaze at some beautiful ruin, the space between our eye and the object is full of numerous tribes of living insects. We know that the very air which we breathe, and the water which we drink, both are also full of life. Is it not, then, as reasonable to suppose, that if life which we cannot see exists everywhere around us, so languages which we cannot hear, and which, if we could hear, we could not of course understand, are spoken around us, by animals and insects, which we consider to lack the power of sound. From observation, we have come to the conclusion that the language of animals is generally more idiomatic than our own; as we are sure that they can communicate more in fewer words than we can. The words 'dumb animals' ought to be dropped in the writings of all philosophical naturalists. How differently the eye—the brain's window—sees and translates objects which engage its attention, because 'it depends greatly upon the faculty behind the eye.' After we rise above the veriest level of the actual and the material, all depends upon that something behind the eye. Many, in fact innumerable objects exist, upon the form, use, and colour which no two men can be found to differ; but the instant that the object addresses itself to the imagination, that most godlike quality of man's intellect, this uniformity of vision in man ceases, and the level of the soul decides."

This *brochure* is elegantly printed and embellished. Crowquill has wrought in the spirit of the author; and the whole though quaintly produced, is a pleasing record of feeling and thought, calculated to interest the young and sensitive.

The Reign of Avarice: an Allegorical Satire, in Four Cantos. Pickering.

Well intended, as against the vice that most easily besets a mercantile people, this satire is written in too formal a mould to achieve popularity in these times of progress. The date of the supposed action of this poem is the year 1845, to the transactions of which it has an acknowledged reference. The difficulty of allegorising such events will be conceded. The style in which it is attempted may be judged of from the following specimen:—

"Twas in that year whose figures in account
Together summed to eight and ten amount—
(It stands not in the calendar A.D:
Since after proven Annus Satanæ)—
When one whose name is Nicé well had reigned
Eight years, and all her land's devotion gained,
That, moved to anger by the well-swayed helm,
The evil spirit sought her island realm:
And, summoning a great and direful host,
Swift disembarked it on the slumbering coast;
And when at morn the sun, astonished, rose,
Nicé, the Queen, was banished by her foes!
Another sovereign, Avarice by name,
Alike did crowns and tripis sceptre claim;
While she, whose once they were, that morning fled,
In honour's court to raise her royal head;
And all her faithful ministers and peers,
Each by her side his loyal banner rears,
And all who still her glory love to guard,
Followed her then, unheedful of reward;
But yet, alas, that minstrel this should tell!
But few were they who still obeyed her well.

Nothing further is needed to instruct the reader in the kind of entertainment to be expected from this production.

The Pipe of Repose; or, Recollections of Eastern Travel. By Robert Ferguson. Second Edition. Ollivier.

This is a very readable little book on Oriental places and persons, but contains nothing new or startling. The chapters are inaugurated with some original descriptive sonnets, which are not without merit.

OFFICIAL STATISTICS OF THE CRYSTAL PALACE.

RETURN showing for each day, since May 1st to July the 26th, the estimated Daily Number of Visitors to the Exhibition, the Receipts at the Doors, and the largest number of persons in the Building at any one time.

Date.	Day of the Week.	Number of Persons paying at the doors. Number	Entrance Fee s. d.	Amount received at the Doors £ s. d.	Estimated Number of Persons admitted with Season Tickets	Total Number who entered Daily, including Staff and Exhibitors' Attendants, as estimated by the Police.		Largest Number of Persons in the Building at any one time. Numbers.	Time.
May	1 Thursday	560	20 0	560 0 0	15,000	15,560	25,000		
	2 Friday	452	20 0	452 0 0	15,000	15,452	15,560		
	3 Saturday	1,043		1,012 0 0	49,000		56,042		
	5 Monday	5,452	5 0	1,362 19 0	12,304	17,756			
	6 Tuesday	5,834	5 0	1,458 10 0	12 321	18 155			
	7 Wednesday	7.163	5 0	1,790 15 0	12.314	19,477			
	8 Thursday	8,072	5 0	2,018 0 0	13,000	21,072			
	Friday	7,298	5 0	1,824 10 0	12,316	19,614			
	10 Saturday	7,575	0	1,843 15 0	14,601	22,176	119,220		
		41,194		10,298 9 0	77 056		174,592		
	12 Monday	6,300	5 0	1,597 10 0	12 932	21,232			
	2 Tuesday	8,916	5 0	2,229 10 0	13,027	23,945			
	14 Wednesday	8,259	5 0	2.064 15 0	13,131	23 390			
	15 Thursday	9,704	5 0	2,426 0 0	13,527	25 231			
	16 Friday	10,226	5 0	2,556 10 0	1 ,804	26,030			
	17 Saturday	9,889	5 0	2,472 5 0	13,700	25,589	145,507		
		53,386		13,346 10 0	89,121		319,799		
	19 Monday	9,389	5 0	2.345 0 0	13,740	25,130			
	20 Tuesday	13,443	5 0	3,360 15 0	13,800	29,243			
	21 Wednesday	14,049	5 0	3,512 5 0	14,200	30 2 9			
	22 Thursday	15 892	5 0	3,797 11 0	13,500	31 393			
	23 Friday	16 38	5 0	4,095 10 0	14,000	32 332			
	24 Saturday	20,312	5 0	5,078 0 0	22,200	14,512	192 859		
		89,458		22,189 1 0	91,440		512,668		
	26 Monday	18 402	1 0	920 2 0	7 000	25 402			
	27 Tuesday	27,957	1 0	1,347 17 0	2,943	30,000			
	28 Wednesday	37,184	1 0	1 869 4 0	3,421	40 605			
	29 Thursday	47,518	1 0	2 375 18 0	4,370	51 888			
	30 Friday	22,713	2 6	2.839 9 0	22 958	45 669			
	31 Saturday	7,083	5 0	1,770 15 0	21,467	28,550	222,114		
		160 857		11.123 5 0	61,257		734,782		
June	2 Monday	42,531	1 0	2,129 1 0	3 709	46 240			
	3 Tuesday	48,.02	1 0	2,415 2 0	2 327	53,629			
	4 Wednesday	50,016	1 0	2,500 16 0	4,819	4 835		21,606	4 o'clock
	5 Thursday	51,337	1 0	2,566 17 0	3,917	55,254			
	6 Friday	23,468	2 6	2 558 11 6	5,669	26,134		8,222	1 "
	7 Saturday	6,095	5 0	1,523 15 0	6 89	12,986	245,928		
		218,799		13.694 2 0	27,129		980,710		
	9 Monday	48.714	1 0	2,436 4 0	5 486	54,194		46 167	1 "
	10 Tuesday	40,444	1 0	2,272 2 0	4,2 3	49 697		46,128	1 "
	11 Wednesday	44,219	1 0	2 164 19 0	4,335	47,754		37,823	3 "
	12 Thursday	41,667	1 0	2 233 7 0	3 651	48,318		38 146	3 "
	13 Friday	17,450	2 6	2 206 5 0	6,870	24 320		12,555	1 "
	14 Saturday	6,339	5 0	1,634 15 0	7,.63	14,.02	235,583	20,025	5 "
		206,23.		12 943 12 0	33 352		1,219,295		
	16 Monday	57,099	1 0	2,854 9 0	6,080	63,760		46,374	1 o'clock
	17 Tuesday	63,811	1 0	3,191 1 0	4,333	68,154		54,422	3 "
	18 Wednesday	57,947	1 0	2,897 7 0	4,716	62,663		54,873	4 "
	19 Thursday	53,094	1 0	2 984 14 0	4,471	58 865		46,792	2 "
	20 Friday	23,553	2 6	2 819 4 6	9 181	31 834		19,405	2 "
	21 Saturday	6,698	5 0	1,674 10 0	6,034	12,732	333,013	8,607	4 "
		267,800		16,421 3 6	35,215		1,553,310		
	23 Monday	60 311	1 0	3,016 11 6	7,224	67,555		55,379	3 "
	24 Tuesday	63,732	1 0	3,186 12 0	4,662	68 394		54,097	2 "
	25 Wednesday	53 834	1 0	2,691 14 0	4,81	58 445		45 741	2 "
	26 Thursday	51,450	1 0	2 722 10 0	3,331	57 781		45,631	2 "
	27 Friday	23,754	2 6	2 9 9 15 0	5 279	29 033		21,613	3 "
	28 Saturday	6,363	5 0	1.599 15 0	5 138	11,501	262,464	10,645	5 "
				16,177 8 0	30,245		1,815,019		
	30 Monday	49,396	1 0	2,469 16 0	3,483	52,879		46,090	3 "
July	1 Tuesday	48,590	1 0	2,429 10 0	2 479	51,069		42 717	2 "
	2 Wednesday	47 27.	1 0	2.363 18 0	2 121	49 399		39,873	3 "
	3 Thursday	53 03.	1 0	2 651 19 0	2 569	55,638		44,890	3 "
	4 Friday	23,737	2 6	2,532 2 6	5,270	28,007		23,945	4 "
	5 Saturday	6,263	5 0	1.565 15 0	5 484	11,747	246 739	8,276	5 "
		225,303		14,073 0 6	21,436		2,061,758		
	7 Monday	57,043	1 0	2 852 2 0	4,628	61 670		50,693	3 "
	8 Tuesday	63,385	1 0	3,169 5 0	2 577	65 962		54 016	3 "
	9 Wednesday	54,506	1 0	2.710 6 0	3,849	58 055		48 512	4 "
	10 Thursday	54,160	1 0	2,958 0 0	2,332	61 492		51,2 4	3 "
	11 Friday	23,167	2 6	3,145 17 6	4,900	30 067		23,563	4 "
	12 Saturday	6,350	5 0	1.589 15 0	4,822	11,181	288,427	8,433	5 "
		263,319		16,425 5 6	23,108		2,350,185		
	14 Monday	59 148	1 0	2 957 8 0	3.516	62 694		52,128	3 "
	15 Tuesday	70 041	1 0	3,502 1 0	4,081	74,122		61,641	4 "
	16 Wednesday	58 204	1 0	2 910 4 0	2 422	60 626		50 553	3 "
	17 Thursday	60,46.	1 0	3 023 5 0	3 281	63 746		51,36	3 "
	18 Friday	30,09.	2 6	3,762 7 6	5,231	35,338		27 700	3 "
	19 Saturday	5,443	5 0	1,360 15 0	3 884	9,327	305,853	7,121	5 "
		283,400		17 516 0 6	22,453		2,656,038		
	21 Monday	66,767	1 0	3,338 7 6	3,873	70 640		58 541	2 "
	22 Tuesday	64 727	1 0	3 236 2 0	3,439	68 161		55 264	2 "
	23 Wednesday	48,774	1 0	2,438 14 0	1,845	50,599		42,390	3 "
	24 Thursday	45,72.	1 0	2 2-6 1 0	1 737	47,458		40,881	1 "
	25 Friday	23,872	2 6	2,984 0 0	3,010	26 882		21,325	4 "
	26 Saturday	5,912	5 0	1,478 0 0	4,487	10,399	74,139	7,946	5 "
		255,768		15,761 4 6	18,371		2,930,177		

JAMES WADE, *Registrar.*

BALLOONING IN FRANCE.—Large crowds assembled on Sunday in the Champ de Mars and at the Hippodrome, to witness two balloon ascents, accompanied by descents in parachutes. M. Poitevin made the ascent from the Champ de Mars, and Madame Poitevin made the parachute descent. After the balloon had risen to a certain height, the cord of the parachute was cut; the parachute descended rapidly for a few seconds, and then spread open: when near the ground it caught in the branches of some trees, but at last reached the earth in safety at the exterior of the Champ de Mars, near the railing of Avenue de Suffren. Madame de Poitevin, who displayed remarkable *sang froid*, then entered her carriage, which had followed her, and drove to the tribune of the President of the Republic, who congratulated her, and accepted the bouquet which she had taken on starting. M. Godard, in the Hippodrome balloon, took up his brother in the parachute; he cut the cord when he was over the Champ de Mars, but the parachute deviated, and fell into the river. M. Godard, when near the water, jumped in, and swam ashore, dragging the parachute after him. The two balloons proceeded in a southerly direction, and it is not yet known where they descended. M. Poitevin was accompanied by M. Petin, the inventor of a system of aërial navigation, which he is preparing to exhibit, and M. Godard by several gentlemen.

GUTTA PERCHA WATER-PIPES.—The *Chemical Record*, in its review of the Government documents of Messrs. Rammell and Napier concerning a proposal to supply London with water from the Surrey sands, says:—"It is somewhat remarkable, that, in the Government documents of Messrs. Rammell and Napier, although stress enough is laid upon the poisonous agency of lead pipes and cisterns, and many suggestions are thrown out for the substitution of glazed porcelain and glazed iron, nothing whatever is said about, unquestionably, the very best material for water-pipes that yet has come under the notice of man—we mean gutta percha—a material which, whether we regard it under the aspect of perfect insolubility in water, innocuity, facility of moulding property, power of resisting hydraulic stress, ease of juncture, or flexibility, is, we repeat, the most generally eligible material for the construction of water-pipes. Nor is there a doubt, that, in the long run, gutta percha would be cheaper than lead when thus employed. We have largely used gutta percha for water conductors in laboratories, and with the result of rendering unnecessary several stopcocks and branch communications. Our gutta-percha pipe is quite flexible enough to turn wherever we desire our water supply; whereas, had lead been adopted, the minor flexibility of that material would have rendered several branch pipes absolutely requisite."

On Friday (last week), at Plymouth, a fisherman named Brat, the master of a trawling sloop, when out in his vessel fishing, fell overboard and was drowned. About four hours afterwards, his son, who was mate of another trawler, and who had not heard of the accident, was hauling up his trawl, which appeared unusually heavy. After some difficulty, however, the trawl was hove on to the vessel, and within it was discovered, to the consternation and dismay of all parties on board, the body of the mate's father.

OPENING OF THE GALWAY RAILROAD.

ON Friday, the 1st of August, this important line of railroad, which divides in a direct line the sister island, and connects its extreme eastern and western points, was opened for traffic.

Though not surrounded with any of the pomp or festivity which usually herald in such events, the opening of the railroad has been looked forward to with deep interest by all parties interested in the prosperity of Ireland, both on this and the other side of the Channel, from the importance of the line in a commercial point of view and its likelihood of eventually becoming the high road over which the intelligence and passenger traffic between this country and America must pass; but, though divested of any public festivity, the event was celebrated with all that generous private hospitality for which the capital of the West is so distinguished. The directors, judges, and other public functionaries were entertained at a sumptuous banquet, given at the Galway Club House by the gentlemen of the county, and the day was everywhere celebrated as one for hope and rejoicings.

MR. HEMANS, ENGINEER-IN-CHIEF OF THE GALWAY RAILROAD.—FROM A PHOTOGRAPH BY CLAUDET.

For the opening of this line in the short period of 18 months from its commencement, a circumstance believed to be unparalleled in railway annals, the Irish public are indebted to the munificence of the British Parliament, which advanced the money for the construction of this great national work, to the energy and noble enterprise of its celebrated contractor, Mr. Dargan, and to the eminent ability and untiring exertions of its engineer, Mr. Hemans, a photograph of whom we present to our readers to-day. Mr. Hemans is the son of Captain Hemans, a distinguished officer of the army, and the well-known authoress, Felicia Hemans, whose name must ever find a home in the hearts of all who love to see clothed in the language of poesy all the exquisite fancy, beautiful feeling, and pure thought of woman. From Chorley's interesting life of Mrs. Hemans, we learn that the subject of this notice was born at the romantic residence of his mother, in Wales, near the old cathedral town of St. Asaph; and, notwithstanding the unceasing exercise of her mental gifts, she devoted many hours each day in the labour, to a woman of elevated mind so dear and holy, of instructing her children, and planting in the young mental soil of her son those seeds which have already brought forth so high an eminence, and bear the blossom of a still higher. Upon leaving his mother's care, Mr. Hemans, after passing some short time with his father in Italy, was placed at a distinguished military college in France, where he passed three years, during which he exhibited all the promise of that distinction he has since attained, having carried away every prize both in foreign languages, science, and drawing, and leaving the establishment with no less than six medals. On leaving France, Mr. Hemans was placed under the guardianship and care of his uncle, Colonel Windus, the excellent and popular magistrate of Dublin, who placed him, after filling some appointment under the Ordnance Survey with much credit, as a pupil under Sir J. M'Neil, then practising in London. In this position he was employed on several Irish and Scotch lines of railway, and on the completion of his time of pupillage was given charge of the Dublin end of the railway to Drogheda, the works of which were entirely confided to him by Sir J. M'Neil. After the opening of that line he was immediately placed in charge of a more extended division of the railway then commencing between Dublin and Cork, and was ultimately appointed by Sir J. M'Neil District Engineer over 50 miles of those works.

At this juncture, however, the directors of the Midland Great Western Railway of Ireland, having obtained an act of Parliament enabling them to construct their line to Mullingar and Longford, applied to Mr. Hemans, in August, 1845, to take charge of their works as Chief Engineer. This offer he accepted, and was immediately engaged in preparing plans for the construction of their line, and for its branches and proposed extensions.

During the great depression that all railways laboured under, subsequent to the mania of 1846, but slow progress was made with the works to Mullingar; but on the 28th of June, 1847, the first portion, to Enfield, 26½ miles, was opened to the public. In the meantime, by the issue of a severe Parliamentary contest, the company had been put in possession of the line to Athlone, and in 1847 these powers were further extended to Galway; in the same year a further portion of the line to Mullingar was opened, on the 6th December, to the public. It was not until the 2nd of October in the following year, 1848, considerable financial difficulties having much retarded the works, that Mr. Hemans could enable the directors to open their line to the public the whole way to Mullingar, and there for a considerable period all further progress was stopped.

In May, 1849, the extreme distress in the west of Ireland having induced the Government to consider the advantages of giving employment, by the extension of the rail to Galway, a loan was advanced to the company of half a million, to be spent on the line between Athlone and Galway, the company themselves guaranteeing to find the means of construction from Mullingar to Athlone. A further condition, which then appeared rather startling, was annexed, which was, that the whole line from Mullingar to Galway, 77 miles long, must be completed by the end of December, 1851.

As the works could not commence until land was obtained, in the beginning of 1850, this was considered a difficult task, and was not undertaken without hesitation. Two great rivers, the Shannon and the Tuck, and an arm of the sea, were to be bridged over, and some deep bogs to be crossed, besides tolerably heavy earthworks in the county Westmeath. In the latter end of the year, the directors, at Mr. Hemans' strong recommendation, secured the services of Mr. Dargan, the eminent contractor, and early in 1850 the works were actually commenced by him, with a large staff of plant and assistants. From this time, Mr. Hemans devoted every energy of his mind to the arrangements necessary for the completion of the line in due time. Designs were prepared for the numerous bridges, stations, &c., and for the viaducts over the Shannon, river Tuck, and the estuary of Lough Athalia. All these works were put in active operation during the summer of 1850; and the result has been, that, on the 1st of August, 1851, five months *before* the stipulated time, and at a cost, we believe, considerably *under* the estimate, the whole line from Mullingar to Galway has been opened to the public.

Thus, in about eighteen months since the commencement of the works, a line of railway, 77 miles long, has been opened to the public. The viaduct over the river Shannon is a most interesting and elegant work. The details of the design and the execution of the work are by Messrs. Fox and Henderson, the well-known contractors for the Crystal Palace. They are taken from the original sketches of Mr. Hemans, who decided on adopting the system of cast-iron cylinder foundations in the river, and bow and string girders, as previously invented by Mr. Fox, and erected in England on a smaller scale.

The principal novelty in this bridge is, that there is an opening portion of it in the centre allowing vessels to navigate the river a double pass through the bridge. This is an equilibrium swivel, turning on a large central ring, and opening two spans of 43 feet each simultaneously. The bridge being for a double rail, the part in motion, when opening, weighs 130 tons, and is moved by two men through means of a simple winch gearing. The remainder of the river, which is here near 500 feet wide, is crossed by two openings of 165 feet each, constructed in light wrought-iron girders 20 feet deep; but being entirely of open diagonal work, they have a very light appearance. There are also two land openings on iron girders, 40 feet and 50 feet spans.

The whole, with the exception of the land abutments, rests on cast-iron pillars sunk 13 feet in the bed of the river, and built up inside with solid masonry.

The total weight of iron employed is about 1200 tons.

The bridge over the river Tuck consists of stone piers and hollow wrought-iron tubes, on the principle of the Britannia and Conway bridges, except that the railway is supported by, instead of going through, them. These are in three spans of 75 feet each, and are 6 feet deep in the centre. The weight of iron in this bridge is about 130 tons. It was constructed by Messrs. Fairbairn, of Manchester.

The viaduct over the estuary of Lough Athalia is a still more remarkable work than the one over the Shannon, from the circumstance of the Admiralty requiring the swivel opening to be 60 feet wide, for the accommodation of a large class of steamers. A design was made by Mr. Hemans for this bridge also, on the equilibrium principle, opening two spans at once: this was highly approved by the Admiralty, and submitted for competition to several eminent firms, leaving to them the option of the detail method of carrying it out. In this competition Messrs. Fairbairn, of Manchester, were successful, again adopting the principle of the box girder as the main feature of the work. The bridge stands in the centre of a tidal way; subject occasionally to violent gales and of high tides; the masonry is therefore of the most solid description. The central pier, on which rests the swivel ring, is 34 feet wide, and the two secondary piers are 10 feet wide each; the side spans are 40 feet each in wrought-iron girders; and the total length of the swivel girders is 160 feet, by a width across the railway of 38 feet. The mass in motion when this bridge opens for vessels is about 200 tons. This is a splendid specimen of the power of machinery, and of the skill now attained in railway-bridge making. Four men at a winch suffice to open or shut the bridge.

The permanent way of the line is exclusively of Mr. Hemans' design and adoption. As a whole, it consists of a combination of bridge rails riveted and bolted to joint-plates, and of longitudinal and cross sleepers, the latter varying in number according to the nature of the ground. A very high rate of speed is attainable on this system with less oscillation than on the old plan of stone blocks or cross sleepers to support the rails.

In connexion with the railway, Mr. Hemans has designed a safety pier for Galway Harbour, which, if carried out, would render it one of the finest in the world.

PROROGATION OF PARLIAMENT.

THE QUEEN'S SPEECH.

Parliament was yesterday prorogued by Her Majesty in person. The Queen went in State by the usual route, and reached the House of Lords shortly before two o'clock. The fineness of the day attracted an immense concourse of spectators by whom her Majesty was loudly and enthusiastically cheered.

The Queen having taken her seat on the Throne of the House of Commons, with the Speaker at its head, having, pursuant to summons, made its appearance at the Bar, her Majesty made the following most gracious Speech:—

"MY LORDS AND GENTLEMEN,

"I am glad to be able to release you from your attendance in Parliament, and I thank you for the diligence with which you have performed your laborious duties.

"I continue to maintain the most friendly relations with foreign powers.

"I am happy to be able to congratulate you on the very considerable diminution which has taken place in the African and Brazilian Slave Trade. The exertions of my squadrons on the coasts of Africa and Brazil, assisted by the vigilance of the cruizers of France and of the United States, and aided by the co-operation of the Brazilian Government, have mainly contributed to this result.

"GENTLEMEN OF THE HOUSE OF COMMONS,—

"I thank you for the readiness with which you have granted the Supplies necessary for the service of the year.

"MY LORDS AND GENTLEMEN,

"It is satisfactory to observe that notwithstanding very large reductions of taxes, the revenue for the past year considerably exceeded the public expenditure for the same period.

"I am rejoiced to find that you have thereby been enabled to relieve my people from an impost which restricted the enjoyment of light and air in their dwellings. I trust that this enactment, with others to which your attention has been and will be directed, will contribute to the health and comfort of my subjects.

"I thank you for the assiduity with which you have applied yourselves to the consideration of a measure framed for the purpose of checking the undue assumption of ecclesiastical titles conferred by a foreign power.

"It gives me the highest satisfaction to find that, while repelling unfounded claims, you have maintained inviolate the great principles of religious liberty, so happily established among us.

"The attention you have bestowed on the Administration of Justice in the Courts of Law and Equity, will, I trust, prove beneficial, and lead to further improvements.

"I have willingly given my consent to a bill relating to the administration of the land revenues of the Crown, which will, I hope, conduce to the better management of that department, and at the same time tend to the promotion of works of public utility.

It has been very gratifying to me on an occasion which has brought many foreigners to this country, to observe the spirit of kindness and good-will which so generally prevailed.

"It is my anxious desire to promote among nations the cultivation of all those arts which are fostered by peace, and which in their turn contribute to maintain the peace of the world.

"In closing the present session, it is with feelings of gratitude to Almighty God that I acknowledge the general spirit of loyalty and willing obedience to the law which animates my people. Such a spirit is the best security at once for the progress and the stability of our free and happy institutions.

POSTAGE STAMPS.—At the instance of Mr. Muntz, the House of Commons has ordered to be printed a copy of all the correspondence that has taken place since 1847, between the Lords of the Treasury, the General Post-Office, and Mr. Archer and the Commissioners of Inland Revenue, relative to Mr. Archer's machine for perforating sheets of postage label stamps. The inconvenience which Mr. Archer proposed to remedy—serious enough to persons of voluminous correspondence, and still more so to a postmaster during the last half-hour for receiving letters—is the trouble occasioned by the present mode of cutting or tearing sheets of postage stamps into single heads. For this purpose he invented a machine, which, it is stated, can be worked by two boys, and by the aid of which stamp sheets may be so minutely indented in the directions of the white lines, as to allow the stamp to be instantly detached from the sheet without the operation of cutting. The plan, it was argued, would secure the folding of stamp-sheets without creasing them, while the rough or dental edges given to the stamps would cause them to adhere to the letters much better than when cut by scissors. Mr. Archer, feeling confident in the success of his plan, proposed that his claims for compensation should be contingent upon the unqualified approbation of the public, the Postmaster-General, and her Majesty's Commissioners of Stamps. The superintending presidents of the inland and London district post-offices thus referred to Mr. Archer's machine, under date the 14th October, 1847:—"The machine appears to be a very clever and useful invention. * * * We are thoroughly convinced that postage stamps separated by it, having jagged edges, will adhere to letters far better than those cut from the sheet by knives or scissors. * * * We submit, it is most desirable that the invention be recommended to the notice of the Commissioners of Stamps." The machine obtained the approval of the Board of Stamps and Taxes, and of the Lords of the Treasury, and after one or two experiments it was found to answer the purpose for which it was intended. A sum of £200 was proposed to be given to Mr. Archer as an adequate remuneration for his invention, besides a further sum of £400 as compensation for expenses incurred in the construction of the machine. The inventor was dissatisfied with the arrangement, urging that it was inadequate to defray the mere outlay, and proposed (March 26, 1851) to enter into a contract for perforating, engraving, printing, and gumming postage label sheets for £1 15s a thousand less than was then paid for engraving, printing, and gumming them. The agreement with Messrs. Bacon and Petch was to print postage labels at the rate of 6d. per 1000. Mr. Archer proposed to do so, and to perforate them besides, at 4½d per 1000. The original printers reduced their charge to 5d. per 1000 in consequence, and a contract was concluded with Messrs. Bacon and Petch for five years at that rate. Mr. Archer, on the 30th of May, signified to the Inland Revenue Office that it was his intention "to appeal to the honour and justice of Parliament for redress, with the least possible delay."

His Royal Highness the Prince of Holstein (travelling under the name of Major Groenwald), accompanied by his son, visited Liverpool last week, and inspected various institutions there, amongst them St. George's Hall, the Cornwallis-street Baths and Washhouses, the Albert and all the other docks, and the Town-hall, where they partook of a cold collation. Both the illustrious visitors spoke English with considerable fluency, and frequently expressed their gratification which the varied and novel sights afforded them. They left subsequently for Scotland.

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